

3.3. STEAM-Oriented Vlogging as a Tool for Preparing Pre-Service Foreign Language Teachers

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Abstract. *This study evaluates STEAM-oriented learning vlogs (SOLVs) as a pedagogical tool for advanced university foreign language (FL) teaching, with a focus on developing professionally oriented communicative competence (POCC) in pre-service English teachers. Drawing on human-centred, competence-based, project-based, and inquiry-driven principles, we reviewed Scopus/Web of Science scholarship alongside classroom practice, then conducted a semester-length, two-arm, parallel-group cluster-randomized pilot (N = 60; four intact classes; 5–6 weeks). Classes were assigned to SOLV or a standard research/presentation project (business-as-usual). Outcomes (pre/post) included a POCC proxy rubric (0–20), scored on a teaching-like task; a 5-minute speaking performance measure; a CEFR-aligned mediation task; and a 10-item digital-literacy self-efficacy scale. STEAM content/design quality was tracked in the experimental arm. Results indicate that SOLV strengthens linguistic competence (clearer pronunciation, more precise lexico-grammar) and speech competence in both oral production (greater fluency and discourse control) and mediation (clearer paraphrase, explication, and terminology management). Quantitatively, the SOLV group outperformed controls on all indicators: POCC ($M_{\text{post}} = 17.3$ vs. 14.6), speaking ($\Delta M = +2.1$ vs. +0.8), mediation (13.2 → 15.8 vs. minimal change), and digital-literacy self-efficacy (4.2/5 vs. 3.5/5). Higher STEAM design quality co-occurred with larger mediation gains. Complementary qualitative evidence suggests that hands-on work with mobile apps and online platforms heightens motivation, scientific curiosity, creativity, analytical thinking, collaborative problem-solving, and reflective learning. Taken together, findings position SOLV as a viable, high-impact approach that integrates language development with digital production and inquiry.*

Keywords: *STEAM-oriented learning vlog, pre-service foreign language teachers, professionally oriented communicative competence, project-based learning, digital literacy.*

Introduction

Disruptive technologies are reshaping higher education and imposing new demands on professionals who must work in an environment of uncertainty, creativity, and multiculturalism. AI now permeates education, enhancing learning analytics and employability (Zawacki-Richter et al., 2019), while diversifying the roles of teachers. Accordingly, philological curricula for future FL teachers require re-envisioning. Education-related professions remain essential; automation cannot replace them (Melnik, 2023).

Amid rapid change, educators must continuously refine their skills, adapt quickly, and practise self-direction. Methodology scholars emphasise the need to develop professionally oriented communicative competence (POCC) (Borysko, 2018), with increased attention to intercultural training in speciality 014.02 (Secondary Education). In line with these demands, intercultural (general-cultural, academic, and professional) FL education should both build POCC and foster learner autonomy. Introducing STEM/STEAM elements and strengthening cross-disciplinary links between practical language classes and psycho-pedagogical courses can advance these aims.

A STEM/STEAM-based model cultivates POCC through practice, self-directed learning, independent inquiry, and creative experience. Centred on project-based learning, it begins with single-discipline projects and scales to integrative designs spanning science, technology, engineering, mathematics, and the arts. STEAM thus serves as an integrated, project-driven approach that marries methodological and pedagogical aims. It promotes creativity, critical thinking, and problem-solving, while inquiry-based study provides the intentionality needed to teach and assess 21st-century skills. Within this frame, a SOLV offers a uniquely integrative experience that develops speech, linguistic, learning-strategic, and sociocultural competencies in pre-service English teachers.

Research Results

Within a competence-based framework, the practical aim of FL teaching is to form the ability to organise effective FL

communication (spoken and written) across professional domains (Methodology, 2011, pp. 262, 66). POCC comprises four components: speech, linguo-sociocultural, linguistic, and learning-strategic, each with profession-specific elements. In light of the CEFR Companion Volume's emphasis on mediation and interculturality, mediation competence becomes pivotal for inclusive, effective classroom interaction (Melnik, 2025).

Deepening international interaction among specialists in various fields calls for an expanded set of FL communicative subcompetences essential for effective intercultural communication. The role of the mediating professional, capable of conveying information and building "bridges between cultures" in writing and speech, is therefore increasing. The professional functions expected of teachers require mastery of a range of skills critical to success in their field, particularly those tied to professional mediation activities. Graduates must be able to devise sound personal strategies, apply specialised knowledge in real intercultural exchanges while accounting for linguo-sociocultural factors, swiftly gather and systematise new data, and adapt to rapidly changing information flows, among other tasks.

We maintain that a pre-service teacher's POCC represents an advanced, field-specific level of communicative mastery. In professional contexts, teacher candidates guided by their pedagogical perspectives and motivations must skillfully adapt acquired knowledge, interpret and apply linguistic and sociocultural resources, and deploy learning-strategic language skills in reading, writing, listening, speaking, and mediation to foster effective FL interaction and pedagogical communication. Students are therefore expected to employ a range of communicative strategies and complete professional tasks in academic and workplace settings. Because future FL teachers' POCC encompasses the attitudes, knowledge, and skills necessary to communicate effectively both orally and in writing, and to utilize the target language as a practical tool in intercultural settings, this competence must be purposefully cultivated.

POCC is nurtured chiefly through philological disciplines that address the psychological, methodological, pedagogical, and cultural facets of the teacher's professional identity. Achieving this goal requires systematic cross-curricular links between practical

language classes and psycho-pedagogical courses. Integrating STEAM content further enriches the process by providing authentic, problem-based contexts that strengthen language use and pedagogical expertise.

International experts on STEAM implementation note that “a STEAM-oriented teaching methodology is based on project-based learning, problem-centred study of science and mathematics subjects, and learners’ independent creation of new educational values for themselves. It emphasises collaborative and networked practices in learning, research, and artistic projects that illustrate how scientific knowledge can be embodied in the creation of art objects.” (Marchenko, 2020).

The term “STEAM education” has been conceptualized variously: as a movement seeking innovative pedagogical experiences; as integrative classroom practices aimed at solving real-world problems; as an integrated instructional approach; and even as a comprehensive educational model. Regardless of terminology, scholars agree that teaching and learning should focus on practical projects that enable students to understand, evaluate, and address the technical and scientific challenges encountered in both everyday and professional contexts.

In recent years, the STEAM literature has documented the positive impact of innovative practices and instructional experiments on students. The theoretical foundations of STEAM educational practices and technologies are discussed in the works of Ukrainian educators and psychologists S. Dotsenko, S. Podlesnyi, and O. Tarasov (scientific discourse; educational practices and technologies of STEAM education); N. Polikhun and I. Slipukhina (STEAM in formal and non-formal education); O. Patrykeyeva, O. Korshunova, N. Hushchyna, and I. Vasylashko (professional development of teachers in STEM contexts).

Internationally, STEAM implementations vary. Research-led teacher education in Finland connects science with everyday artefacts (Haatainen & Aksela, 2021; Haatainen et al., 2024; Aksela & Haatainen, 2025). Spain has documented inquiry-based, integrated STEAM modules in higher education (Aguilera & Ortiz-Revilla, 2021; Ortiz-Revilla, Adúriz-Bravo, & Greca, 2020; Ortiz-Revilla, Greca, & Arriassecq, 2022; Ortiz-Revilla, Ruiz-Martín, &

Greca, 2023). In Canada, efforts span community STEAM camps linking coding and mathematics (Bertrand & Namukasa, 2020; Bertrand, Namukasa, & Li, 2023), Two-Eyed Seeing approaches in Indigenous STEM (Hogue, 2016; Martin, & Hogue, 2019), maker-centred teacher PD (Hughes, Morrison, & Robb, 2021), modelling in K–12 STEM teacher education (Ben-David Kolikant, Martinovic, & Milner-Bolotin, 2020; Martinovic & Milner-Bolotin, 2021), and playful integrations of mathematics, coding, and music (Gadanidis et al., 2017). The literature converges on practice-orientation and integrated, project-based pedagogy (Belbase et al., 2022; Bautista, 2021).

Technology within STEAM reduces cognitive load and enhances motivation (Costley & Lange, 2017). Evidence supports gains in student learning (Gao et al., 2020) and professional development (Shernoff et al., 2017). At the same time, recent work notes that many pre-service teachers feel underprepared to foster digital competence; non-STEM students and those with teaching practice reported lower perceived readiness than STEM peers and those without practice (Dolezal, Motschnig, & Ambros, 2025). Programmes, therefore, need coherent, institution-level strategies to integrate digital skills throughout the curriculum.

In discussing the phenomenon under study, Asojants and Ivanova (2014) note that the ICT tools introduced into educational processes – although not designed exclusively for solving educational tasks – possess “enormous didactic potential for creating an information-rich learning environment” (p.92). Prayudi et al. (2021) add that technology in language learning should not be confined to search engines used merely to look up extra details on a topic; rather, it can be harnessed to make learning more efficient, adaptive, and engaging. The use of relevant activities and a broader range of technological resources has led to new pedagogical innovations in language study (Chapelle, 2019).

The use of authentic video materials in English-language teaching (ELT) has been the focus of numerous studies. Researchers have developed strategies for using English-language television news in university ELT courses (Vikovich, 2010), online audio and video materials for teaching professionally oriented listening and formation of students’ English communicative

competence in technical universities (Volkova, 2015), It has been demonstrated that using authentic video blogs is advantageous for developing pre-service teachers' competence in professionally oriented English speaking (Duka, 2019). It has been proposed that methods for jointly developing pre-service teachers' professionally oriented speaking competence and ICT competence through webquests and modern internet technologies (YouTube, Google Hangouts, Google Classroom, Skype) (Burak, 2019). ICT tools, together with free mobile apps, online services, and platforms, prove valuable for creating interesting and original projects envisioned in the curriculum.

In language education, Web 2.0 tools, including blogs, vlogs, wikis, and podcasts, facilitate authentic multimodal tasks. Research shows that vlog projects can aid vocabulary growth and broaden lexical range (Ajabshir & Sadeghi, 2019), improve speaking and engagement (Huang, 2021; Kristiani & Pradnyadewi, 2021; Misdi et al., 2021), and strengthen both oral and written production (Cahyana, 2020; Pratama, Arifin, & Widianingsih, 2020). Vlogging supports autonomy, public speaking, metacognition, and motivation (Lestari, 2019; Rakhmanina & Kusumaningrum, 2017), making it a strong candidate for POCC-aligned tasks. Integrating FL vlogging into coursework enables students to select topics aligned with their interests and specializations (Demetriou, Papageorgiou, & Efstathiades, 2022).

The vlog phenomenon cannot be separated from the blog, because a vlog, short for video blog, is essentially the fusion of video and blogging. A blog is, in itself, a forum for anyone wishing to voice an opinion or share information, whether privately or publicly. Researchers Naboka & Demchenko point out that the most successful educational blogs share certain features: regular posting, collaborative authorship, the inclusion of multiple media types, original (author-generated) content, as well as autonomy and mobility (2019). Although blogs were initially created for educational purposes, they soon attracted FL instructors because they enable the creation of electronic, multimedia journals without requiring specialized programming knowledge (Wu, 2006, p. 69).

Andrusiak argues that a blog, by its very structure, combines features of both spoken and written communication and therefore calls it a "third mode of interaction." The author

distinguishes five main blog types: text blog contains primarily written information; audioblog hosts a variety of audio material; photoblog consists mainly of photographs; videoblog (vlog) presents content in video form; podcast is a digital media file distributed online for playback on media players or personal computers (Andrusiak, 2015, pp. 18-20). Thus, while the videoblog (vlog) is recognised as a distinct category of blog, the difference lies in its specific mode of content delivery: blogs are typically used for text production, whereas vlogs foreground audiovisual interaction.

Researchers concur that this technological tool, when used in language classes, fosters students' autonomous learning and reflection on their learning process (Lestari, 2019). The key idea is to give students opportunities to practise the target language while creating vlogs. Publishing their videos on sharing platforms such as YouTube makes the learning experience more engaging, as learners can observe, study, and practice after watching how something is done in the video (Harefa, 2020).

English-language scholarship describes a vlog as a visual medium that delivers a continuous stream of online broadcasts, enabling anyone to upload and share videos that function simultaneously as audiovisual life-logging and as a communication channel (Maulidah, 2018). We concur with the author's conclusion that creating vlogs fosters autonomous learning, as students gain a clearer sense of purpose and the freedom to manage their own ideas throughout the learning process. Moreover, videoblogging encourages public speaking, supports communication and self-discipline, enhances social interaction, nurtures metacognitive awareness, and strengthens intrinsic. These findings suggest that vlogging technology is particularly well-suited to highly motivated learners.

From a pedagogical standpoint, videoblogs can serve as both primary and supplementary resources in language instruction. Teachers, for example, can use authentic video content created by and for native speakers in practical foreign-language classes. To develop specific language competencies, students might be directed to explore blogs and vlogs such as BBC Learning English for vocabulary work on idioms, phrasal verbs, and accurate word choice; Grammar Revolution for

grammar explanations, usage practice, and tests; and Espresso English for pronunciation and intonation practice using audio and video materials. Interaction with native speakers via blogs and vlogs, e.g., MyEnglishTeacher.eu, also promotes spoken English competence by providing opportunities for brainstorming, self-presentation, information exchange, increased speech rate, improved pronunciation, and greater precision in expressing ideas.

Building on scholars' observation that video texts can effectively simulate an authentic language environment in the classroom, we may assume that vlogs are particularly useful: they mirror contemporary speech, abound in idiomatic expressions and stylistic features, and thus replicate an English-speaking milieu where one might otherwise be absent.

In addition, a vlog offers an immersive experience by combining video, audio, images, and text, thereby enriching both informational content and the emotions conveyed to viewers (Safitri & Khoiriyah, 2017). Vlogs offer multisensory integration, encompassing visual, auditory, kinesthetic, mixed, linguistic, situational, pattern-based, object-oriented, and imaginative elements, showcasing not only the auditory facets of language but also non-verbal communicative signals, such as paralinguistic and extralinguistic cues. The clear advantages of vlogs as instructional video materials include their rapid and user-friendly access, as well as the flexibility they afford in classroom use.

A video blog presupposes a real or at least semi-real audience, such as peers, pupils, or even parents. This authentic communicative goal raises the stakes for clarity, accuracy, engagement, and accessibility, compelling students to make instructional decisions that mirror genuine teaching steps: *What does my viewer already know? Which visuals best explain this concept? How slowly should I speak?* Learner autonomy grows because students control the topic, sequence, design, and delivery of the material.

Vlogging also helps future teachers capture their thoughts and questions while showcasing their work to a broad audience. They can comment on current events, respond to course topics, or expand on ideas discussed in class. Maintaining a vlog trains advanced learners to write for an audience and to practise their

own “voice.” Vlogs blend conversational, academic, and professional English with on-screen text, visual effects, props, diagrams, and captions, providing an experience that prepares pre-service teachers to deliver multimodal instruction in technology-rich classrooms.

When used as authentic tasks, vlogs heighten engagement and deepen learning. They are flexible: students can work individually or in small groups, and the finished product can serve as both a unit-ending assessment and evidence of learning across an entire module. Such activities create student-driven platforms that involve everyone; most importantly, they foster effective collaboration and critical thinking. Because the tasks mirror real-world communication, learners individualize their projects, sharpen critical thinking skills, and practice autonomy, innovation, and adaptability.

Given the need to prepare FL teachers who can both engage in and teach intercultural communication (Borysko, 2018), our program requires candidates to develop their own learning vlog projects, both in class and independently. Each project combines pedagogical and STEAM components, benefiting both the trainees and their future learners. The aim is to strengthen learning-strategic competence as a foundation for students’ professionally oriented linguistic, speech, and linguo-sociocultural competences.

Following Ustymenko, we define an instructional project as a set of tasks and exercises designed to organize learners’ creative, inquiry-oriented, and independent FL communication with the aim of solving a relevant, practically significant problem, whose outcome is a concrete product (Ustymenko, 2017). A FL project is characterised by purposefully structured, extended, and meaningful creative activity; the existence of a tangible end product; and learner autonomy in planning, execution, and presentation.

We consider that a professionally focused vlog project can develop intercultural FL communication skills among educational professionals, provided specific guidelines are followed. These include a) establishing clear project goals that mirror real-world professional practices, b) designing tasks that simulate authentic

professional challenges to spark interest in language and cultural teaching, and c) structuring work inside and outside the classroom to enhance sub-competencies (Melnyk, 2024). Such a project work engages five language modes: listening, speaking, reading, writing, and mediation, while integrating knowledge, skills, and abilities from other disciplines. The approach encourages reflective practices to overcome encountered challenges, emphasizing self-assessment and improvement.

Drawing on established project typologies (Arvanitopulo, 2007), the SOLV aligns most closely with the information-research type: students curate, present, and analyse STEAM-related content alongside psycho-pedagogical and cultural material, often incorporating elements of scientific inquiry for a real audience. *Science* addresses causal explanations, hypotheses, experimental procedures, and evidence; *technology* presents functional descriptions and user instructions; *engineering* frames problem statements, constraints, and design solutions; *art* conveys narrative structures, visual composition, graphic annotation, and audience engagement; and *mathematics* relies on comparison and the interpretation of charts and data trends.

STEAM topics place learners in cognitively demanding language spaces (explaining mechanisms, describing procedures, marshalling evidence, specifying functions and instructions, defining problems and constraints, composing visuals for audiences, and interpreting data), making SOLV a natural vehicle for integrated language-and-content development.

A SOLV is therefore instructional in form yet professional in content, sketching the contours of learners' future work while integrating the disciplines signalled by STEAM. Hallmark features include collaboration, authentic audiences and assessment, interdisciplinary links, multiple solution paths, and quasi-professional tasks that cultivate attitudes, motivations, and interests. The value lies not only in the language artefact but in repeated engagement of all language modes.

Reading. Scientific/technical texts are multimodal (tables, graphs, measurements). Training pre-service teachers to read across modes builds source comparison, main-idea recognition, and selection of audience-appropriate infographics. Annotation

sharpens attention to discourse markers and patterns (e.g., passive voice in reports) and strengthens critical reading.

Writing. Drafting scripts, on-screen titles, diagrams, captions, and reflections develops genre control. Learners transition from conversational voice-over to procedural prose, incorporating accurate scientific facts into creative texts; digital tools facilitate iterative, linked, individual, or collaborative production.

Speaking. On-camera explanations require clear pronunciation, signalling (“Let’s review...”, “Three factors...”), and real-time descriptive language, especially for demonstrations.

Listening. Students analyze model explainers, critique peers’ footage, monitor their own recordings for clarity, and respond to viewer questions, listening both for precision (terminology and sequence) and global meaning.

Mediation. Learners recast complex ideas into accessible language; summarise data for lower-proficiency peers; coordinate team communication; and produce multimodal supports (bilingual glossaries, visual organisers, interactive quizzes) that bridge knowledge gaps and promote inclusion. These mediation moves, paraphrasing, precise lexical choice, and audience-aware explication are central to the CEFR. Distilling dense multimodal input strengthens reasoning and summary skills essential for lesson planning; deciding when to retain L1 technical terms versus explaining them in L2 builds the metalinguistic awareness required for English-medium teaching. By creating explanatory vlogs with layered supports (visual cues, captions, data commentary), future English teachers rehearse the mediator’s role and practise inclusive pedagogy.

Students typically respond to the brief with a mix of nervousness and enthusiasm, energised by the chance to produce an instructional artefact of their own. The SOLV brings together STEAM content, digital production, and reflective practice to develop POCC. A typical cycle spans five to six weeks. *Design phase (Weeks 1–2).* Students independently research the topic, consult multiple sources, evaluate credibility, extract key ideas, and practise both concise and extended explanatory summaries. In class, they brainstorm, analyse exemplar vlogs, exchange

ideas, and agree on a shared plan. *Script & storyboard (Week 3)*. Learners draft a concise script, plan visual elements (titles, on-screen text, and multimodal cohesion), verify facts, and edit for clarity and accuracy. Explaining content in English develops questioning, reasoning, and multimodal description skills, the academic registers students will need in future teaching. *Production (Weeks 3–4)*. Students film, rehearse clear delivery, address pronunciation issues, and edit footage in low-threshold mobile apps (e.g., InShot, FilmoraGo, Movavi Clips, VivaVideo). Typical edits include trimming, transitions, captions, audio balancing, and basic effects. Finished projects may be recorded via Flip (Flipgrid) or uploaded to Padlet, Google Sites, or Microsoft Teams. Filming follows the script; final editing completes the video. *Feedback & refinement (Weeks 5–6)*. The vlog is evaluated from multiple angles, with targeted feedback highlighting specific issues. Students re-record as needed to improve fluency, intelligibility, and discourse organisation. Final videos are posted on the university platform and channels promoting FL study. *Reflection*. Learners keep brief journals and give peer/teacher feedback. Reflection via self-assessment, peer review, and one-on-one conferences consolidates skills and sets new goals. Self-monitoring through playback fosters metalinguistic awareness (e.g., “I dropped past-tense endings, re-record”).

A recent unit on learning strategies culminated in the creation of virtual posters, short videos, and interactive infographics (using Canva, Google Slides, and Screencastify). During the showcase, peers left questions and feedback on digital “sticky notes.” As one student observed, “I never thought my project would teach anyone, but my younger brother watched it and started asking questions.” That sense of ownership and confidence is precisely what a well-executed project can foster. By speaking to the camera, students practise public speaking, sharpen their idea presentation, and build self-assurance

In an English-medium setting, we cannot assume that every learner will display the expected degree of autonomy; otherwise, the educational payoff of producing a vlog may be unacceptably low. To address this, we have created a structured Project Log that shows how STEAM-oriented vlog projects build learner autonomy, digital literacy, and pre-service English teachers' POCC. The log

serves as a step-by-step guide to the vlog workflow, including scheduled consultations and free tools such as Google Calendar, Google Meet, and Google Classroom, to streamline planning and resource sharing.

We illustrate this approach with a specific Project Log from an English-language course, themed “Boost Your Memory.” The SOLV brief places students in a quasi-professional scenario: You are an *FL teacher who recognises that vlogs on memory techniques can greatly improve learners’ recall of vocabulary, grammar rules, and idiomatic expressions, thereby boosting their proficiency and confidence. Create a learning vlog that offers accessible, engaging, and practical strategies for different learning styles, making English study more effective.* This scaffolded sequence guides students from initial problem framing through research, scripting, filming, and reflection, ensuring that each stage contributes meaningfully to the development of both professional skills and communicative competence.

PROJECT LOG

Step 1: Inquiry and investigation of the best memory techniques for learning.

Project Block 1: Prioritize typical problems in learning foreign languages and share your personal experience.

1. Individually, rank your list of problems or mistakes that speakers frequently encounter. This could be a confusing grammar rule or a tricky pronunciation issue. Demonstrate an understanding of why this problem is particularly challenging, perhaps by sharing examples from life and real-world studies.

2. Compare your list with other members of your group. Explain the reasons for your choice with examples from your own observation.

3. Work with someone from a different group. Compare your group’s answers to the questions with those of the other group. How were your answers different?

4. What set of problems did you share in the discussion in task 2 that you would later include in your vlog?

5. Read one of the articles exploring learning techniques (<https://www.fluentin3months.com/memory-palace/>; <https://www.pinterest.co.uk/pin/54395107991255489/>; <https://www.pinterest.co.uk/pin/the-feynman-technique-for-learning-556124253997388137/>).

Discuss the questions.

- What type of learning strategy do you think learners use most? Why?
- What do you use regularly? Which do you never use?

6. Imagine you are talking to your young brother. With your partner, explain which learning strategy would be better to apply? Give three reasons.

7. Fill in the table given below by sharing a set of techniques for memorising information in learning English / Ukrainian / French/ German.

	<i>Kinds of memory techniques</i>	<i>Identify the «plateaus» and difficulties</i>	<i>How to demonstrate a memory strategy</i>
1	A 2-line poem / a rhyme		
2	An acronym		
3	Memory palace (Cicero's method)		
4	An icon (visualization)		
5	An association of ideas		
6	The spaced repetition of language usage in various contexts		
7	Correlation with the learner's native language nuances		

8. Choose three techniques in order of how significant they have been for studying. learning foreign languages? Explain the reasons for choosing them.

Project Block 2: Think of ways in which you can demonstrate memory techniques. Fill in the diary with a short summary of each kind.

Learning strategy 1 - Educational vlogging focus - Project diary

The term «project dairy» can be used in the context where tracking the progress of a project is crucial. In the Project diary, the changes in timelines, advancements, and setbacks of the design project are meticulously recorded. In this instance, the Project diary serves as an official record-keeping tool to track all developments within an ongoing project, providing useful information for future reference.

Project diary – My mnemonics/techniques

mnemonic 1	• Reasons for choosing	technique 2	• Reasons for choosing	mnemonic 3	• Reasons for choosing
mnemonic 1	• example	technique 2	• example	mnemonic 3	• example

Step 2: Collect information about the strategies to enhance memory and share evidence

Project Block 3 Research storyline iterations

1. Read *the learning strategy*. Then work in pairs. How useful do you think this framework would be for creating your vlog? Have you followed / would you like to follow this scheme? Why? / Why not?

Learning strategy 2 - Educational vlogging focus - Incorporating a 5-stage framework

To improve content quality and engage viewers, apply a 5-stage narrative framework. It can help in creating a compelling narrative that keeps viewers engaged from start to finish. However, it is essential to remember that vlogging, by nature, can be more spontaneous and free-form than other types of storytelling. While these stages provide a useful guideline, vloggers should feel free to adapt, merge, or skip stages as they see fit based on their content and personal style.

When creating a learning vlog, it's essential to remember that learners will appreciate both the introduction of new, sophisticated techniques and the refinement of strategies they may already be familiar with, thereby reinforcing their existing knowledge base. Making the vlog interactive with prompts for viewers to familiarize themselves with. The vlog should strike a balance between introducing new concepts and practicing and reflecting on the techniques in real-time, which can enhance the educational value of the content.

Throughout the framework, it is important to maintain a friendly and supportive tone. The content of vlogs should be concise, relatable, and engaging, as this encourages viewers to engage more deeply and not to be afraid of making mistakes. Good editing, clear visual aids, and high-quality audio are also key in creating an effective learning vlog. For instance, diagrams for story techniques or charts for spaced repetition systems (SRS) can be particularly helpful at this level, as they cater to visual learners and break down complex information into digestible pieces.

2. Read sentences 1-5 and discuss which techniques of a 5-stage narrative framework they relate to.

1. Relatable challenge and brief personal anecdote: "I kept forgetting irregular verbs before exams." Reframe the struggle as a productive challenge that can boost learning if we use the right strategy.

2. Use the technique Demo and visually show the mnemonic. Build step-by-step; animate text, icons, sketches. Say *why* it works (link to memory research / cognitive principles). Include at least one worked example from English learning (vocabulary, grammar, collocations, pronunciation).

3. Reflect / evidence/transfer. Rapid recap of key steps & benefits. Cite a supporting source ("According to X, spaced repetition boosts long-term retention..."). Invite viewers to try the technique this week & report results (feedback loop). Close the mystery: reveal the answer to the opening puzzle or re-test the original quiz to show improvement.

4. Spark curiosity; show a puzzling memory fail or a quick quiz. Raise a question viewers want answered ("Why can I remember Netflix plots but not phrasal verbs?").

5. Guided practice / Viewer participation – Prompt viewers: "Pause and build your own image/story for these 5 verbs." Use on-screen cues, countdowns, or "Comment your version below" to create an interactive segment.

FRAMEWORK

Stage 1. Orientation – Introduce the viewer to the context. This could include your location, the purpose of the vlog, the main characters involved, or any other element that sets the scene. By establishing a clear context, you help the viewer understand and become invested in what they are about to watch.

Setting the Context

Introduction

Start by welcoming viewers and defining the scope of the vlog: memory techniques suited to English learners

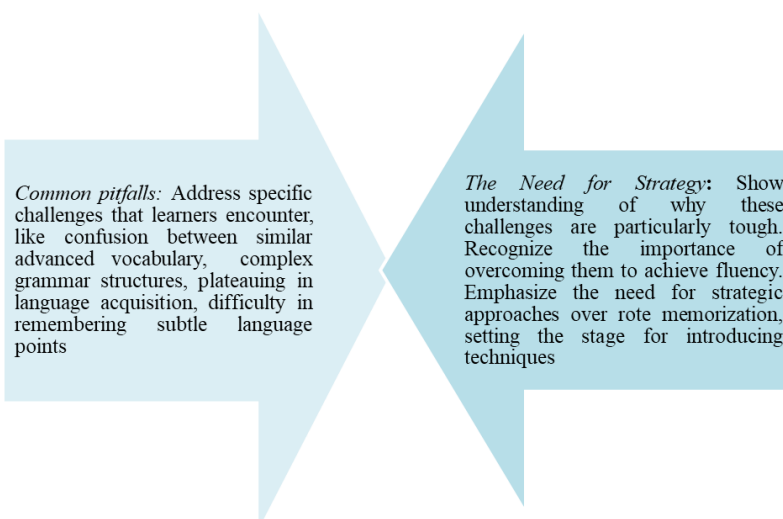
Personal connection

Briefly share your own experiences or challenges with memorizing language concepts to build rapport

Importance of Memory in Language Learning

Explain why effective memory techniques are crucial for mastering English, such as vocabulary retention, recalling grammar rules, improving conversation skills

Stage 2. Crisis – Present a problem, challenge, or question. For vloggers, this might be a personal challenge they're taking on, a question they seek to answer, or an unexpected situation they find themselves in. This is what hooks the viewer and compels them to keep watching to find out what happens.



Stage 3. Journey – Detail the process or adventure undertaken to resolve the crisis. It's the bulk of the content. In vlogs, this could involve traveling, exploring, trying out new things, or simply navigating through educational content. The journey should be engaging and demonstrate progress or change.

Exploring and Applying Memory Techniques

Guided learning path: Present a range of memory strategies to address the challenges you identified.

In-depth demonstration: Dive into each technique. For example, show how to build an imaginative story to remember a series of phrasal verbs, or demonstrate how to use spaced-repetition systems (SRS) effectively.

Interactive segment: Engage viewers by prompting them to create their own mnemonics or stories from a sample list of tricky words or language rules provided in the vlog, turning it into a dynamic learning experience.

Stage 4. Discovery – Share new insights, learning experiences, or solutions to the problem the learner can face up to. This can be a moment of reflection, realization, or a tangible outcome. For vloggers, it's essential to share these insights with their viewers, as they add depth to the story and often provide value or a takeaway for the audience.

Gaining New Skills

Reflect on effectiveness. After demonstrating the techniques, share examples of how these methods help retain new information and enhance language acquisition, and what didn't.

Evidence. Provide testimonials or evidence from available (linguistic) research to show that these techniques have proved effective for other learners.

Self-reflection Urge viewers to experiment with each technique to find which works best for them, fostering a sense of autonomy in their learning journey.

Stage 5. Resolution – Conclude the vlog by resolving the situation, overcoming the challenge, or ending the story. This provides closure, leaving viewers with a sense of satisfaction.

Consolidation and Closure

Review the Essentials. Briefly restate what the vlog covered and the memory strategies demonstrated, highlighting the most useful ideas and explaining why they are helpful. Think about why the featured memory strategies help retention (link to at least one cited source).

Put It Into Practice: Encourage students to start using these memory tools in their everyday study sessions. Invite learners to apply one technique in their next study session or vocabulary list. For instance, post your 5-word story below.

Join the conversation. Invite viewers to post their results, questions, or additional memory tricks that work for them so everyone benefits from a shared learning community. Which mnemonic worked? What variation did you invent? Which text type gave you the clearest explanation? Build a peer community.

Project Block 4: Research sources that illustrate the memory techniques

1. Read *the learning strategy*. Find support to defend your ideas as viewers trust evidence. Move from a simple opinion to a defended claim by adding a *source + relevance*. Go to your class textbook for pictures, diagrams, and quotations. Use the Internet to search for your topic, using only reliable sources and up-to-date information. Check out documentaries, news videos, and texts such as journals and newspapers. If appropriate, include anecdotal evidence, verifying as much information as possible.

Learning strategy 3 – Educational vlogging focus – Defend ideas

When preparing your evidence and support for an academic context, make sure to take good notes and include the speaker/author, title, and date of the presentation or article (using a notecard for each source of information can be helpful). Also, when you use quotations or paraphrases, be sure to give credit to the original source.

Example of How to Defend Ideas in Speech

Notice how, in this simple opinion, the speaker makes their view clear but fails to provide any support for it. By pointing out her agreement with Veronica from *Change Is in the Making*, the second speaker defended her position.

Simple opinion

1. *My view is* that too many people are afraid of change because they think it's going to be uncomfortable and hard.

Defended opinion

2. While many people are reluctant to change, *I agree with Veronica Collins* that, in addition to making people emotionally uncomfortable, change can also lead to human flourishing.

Effective speakers also defend their use of an idea or example by showing how it supports their argument and why their source is relevant and valid.

Simple opinion

3. *I believe* it will be difficult for the Mongolian herders to preserve their culture and traditions because no one respects their culture these days.

Defended opinion

4. *Morgan Kay* is a biologist from Colorado who works for an NGO in Mongolia. When discussing the nomads' chance of survival, it is essential *to remember her point* that the Western way of life is not the only way.

Synthesize the content, ideas, and vocabulary from these lessons, noting the attributes of the concepts of resilience and perseverance, as well as the benefits of a growth mindset in education and personal development. Craft engaging elements that use the vocabulary to inspire and motivate your audience to adopt a more positive mindset towards learning and growth, and make eustress work for them.

2. Read about different types of text and answer the questions.

1. What type of academic literature is the most difficult to read? Why?

2. Why will learners be required to read academic literature, journal articles as they progress in their academic career?

3. What do journal articles usually report?

4. What organizational structure do websites typically follow?

5. What types of academic essays do you usually write? Why?

Common text types and how they are organized

<i>Text type</i>	<i>Organization of information</i>
Textbook	-logical order, simple → complex -divided by chapters and headings -topic sentences give main ideas; concluding sentences summarise paragraphs
Report	- opens with a summary/highlights section listing main points -body split into headed sections -often uses charts, tables, or graphs - may finish with recommendations for action
Academic essay	- formal structure -thesis at the end of the introduction previews the content -body paragraphs follow the order set out in the thesis - conclusion restates the main argument and summarises the content
Newspaper/ magazine article	- short paragraphs - main facts (who, what, where, when, why, how) appear early - details and elaboration follow - may include direct quotations from experts

Journal article	-abstract previews the paper -standard sections: abstract, introduction, methods, results, conclusion
Website	-layout varies with purpose -overview usually given in top or side menus - key information is hyperlinked directly from relevant words for quick access

3. Read *the learning strategy*. Find the underlined sentences in the article. Decide which words were left out using ellipses.

Learning strategy 4 - Understanding text structure

Writers use *ellipses* to avoid repeating words and structures that they have already used. If you don't understand part of a text, it could be because the writer has used ellipses. Reading the preceding phrase, sentence, or sentences should help you understand what the writer means.

Academic literature in a language other than your first can be challenging 1(...), but certain strategies can boost both comprehension and reading speed.

Helpful seven-step routine: "Read it fast, use it smart."

1. Skim the passage first 2 (...) what's it about?
2. Link new ideas to what you already know (or want to learn) 3 (...) prior knowledge makes material stick.
3. Predict the structure 4 (...) journal article, report, essay?
4. Chunk the text: divide it into sections and add your own headings 5 (...) or use the author's.
5. Turn each heading into a question (e.g., "What is the loci method?") 6 (...) self-queries sharpen focus.
6. Read each chunk carefully to answer your questions 7 (...) jot margin notes if the details are dense.

7. Reflect when you finish: What's new? What helps? 8 (...) What still isn't clear?

4. Decide what statements a-h you would choose to explain the underlined sentences 1-8.

- a. but you can use certain strategies
- b. ...to get a sense of its content, length, and text type.
- c. ...new material sticks better when you link it to prior knowledge or personal interest. *Where have I seen this in class?*
- d. ...how the ideas will be organized by using what you know about the text type. *Is it a ...?*
- e. ...to find the answer to the question you have generated. If the information is complex,
- f. If you were not given a set of questions to answer, develop a set yourself by turning each heading into a question. *How was the study done?*
- g. ...that reflect the content of each section. If a reading has already been divided into sections, use the writer's headings.
- h. ... on the content of a reading when you have finished. *What's new? What helps my learning? What's unclear? What did I learn that was new, interesting, or important? What do I not understand or need to ask someone about? What opinion (if any) do I have about the information in the text?*

5. Read the *learning strategy* and analyse the example of an explanatory synthesis essay. What information about writing this type of essay most surprises you?

Learning Strategy 5 - How to Write an Explanatory Synthesis Essay

An explanatory synthesis essay shows how information from one source applies to another source. One source may be theoretical, while the other source may describe an individual's experience. The goal of this type of essay is to apply theory to experience.

- Like all essays, an explanatory synthesis essay must have three general sections: an introduction, a body, and a conclusion. You may not use section titles as headings in the essay.
- The introduction announces the topic of the essay. Although there are many good ways to start an essay, the introduction usually begins with a general statement about why the topic is important.
- The introduction finishes with a thesis statement. A thesis statement is a sentence that includes the topic of the essay and the opinion that the essay will present. The opinion expresses whether the theory (from the first source) applies, or does not apply, to the experience (from the second source). It may or may not include the main reasons why the opinion of the essay is correct.
- The body of the essay contains a number of paragraphs. As in other types of essays, each paragraph usually explains one reason why the essay's opinion is correct.
- Each body paragraph should start with a topic sentence that clearly indicates the topic of the paragraph. You can do this by repeating key words (or synonyms of the key words) from the thesis.
- Within each paragraph, refer to both your sources. Start by referring to your first source, use a transition phrase or sentence, and then refer to your second source.
- Each body paragraph should finish with a sentence that makes the point of the paragraph clear.
- The conclusion summarizes the main reasons why the essay is correct. It often finishes with a sentence that restates (but does not repeat) the thesis.

Example Explanatory Synthesis Essay

Task: Summarize Johnston's (2003) article on the morality of testing and assessment and apply it to your partner's English-language testing experiences.

Summary of information to be synthesized

<i>Reference</i>	Johnston, B. (2003). <i>The morality of testing and assessment</i> . In <i>Values in English language teaching</i> . Mahwah, NJ: Lawrence Erlbaum Associates.
<i>Article</i>	-assessment is a moral activity -testing assigns value or worth with serious consequences for students - damages the teacher–student relationship - measures only the knowledge that the teacher values - test preparation courses may be unethical
<i>Student experience</i>	- Ayşe Mehdi, age 22, from Saudi Arabia -received a government-funded scholarship for a year of English-language training and two years of a Master of Engineering degree - must pass the English-language program with 75 percent and a TOEFL iBT score of 90 - English test scores must be submitted within one year

Writer's plan

<i>Introduction</i>	-describe the student's learning background, goals, motivation, funding, and required standardized tests. -apply the theory from the article to the student's experience.	
<i>Body</i>	<i>Article</i>	<i>Student experience</i>
-consequences	-standardized tests have serious consequences. -a student's worth is seen as dependent on test scores.	-feels pressure to improve. -worries she will feel she has failed herself and her family. -may lose government funding. -her future plans could be affected.
-teacher-student relationship	-teacher–student relationship is important. -teachers should be supportive in class. -testing can harm the	-enjoys both teachers and classes. -doesn't see test precautions as a lack of trust.

	teacher-student relationship.	-if she fails, her teachers will be upset.
-knowledge to be tested	-tests often measure only what teachers value.	-learned knowledge from outside the classroom isn't reflected in tests. -example: "I feel like a coffee."
-test preparation	-test preparation can be unethical. -often focuses on raising scores without improving actual proficiency.	-doesn't believe test preparation is unethical. -thinks her teachers help her improve her proficiency.
<i>Conclusion</i>	Some moral implications of testing are reflected in the student's experience, while others are not.	

Checklist when citing evidence in the vlog

- Identify *who* (author/expert/organization).
- Give the *type of source* (journal article, textbook diagram, reputable website, classroom study).
- Provide *date* (year is fine in video).
- Say *why it matters here* ("This applies to language study because...").
- Distinguish *data vs anecdote*. Anecdotes are okay if labeled and tied to research.

Useful Phrases for Citing Sources in the vlog

To cite sources effectively in academic speaking, you can use the following common phrases:

- At a conference in [month/year], X demonstrated that mnemonic imagery helped learners retain vocabulary sets.
- In a study published in [journal/year], spaced repetition improved recall over time.
- In a survey published in [year], ...'s results showed ...
- In [year], ... proved that ...
- According to ..., ...
- As ... says/explains / reports, ...
- Data from ...'s website support ...
- At a conference on [date], ... explained how ...

Quick source notecard format (for preparation)

Author, Year, Title, Source Type, Key Finding (1 line), How I'll use it in the video.

Project Block 5 Draft storyline ideas with evidence

1. Work in pairs. Decide which of the work in your Project Blocks you want to include in your vlog. Think about:

1. What would be interesting to listeners?
2. How many parts to the vlog do you want?
3. What would be a good order for the parts?

2. Write a brief summary of each memory technique, defending facts and using elements of an explanatory synthesis essay. Outline the stages for each technique. Decide, plan, and incorporate visual aids and examples to effectively demonstrate the techniques.

Project diary – My storylines

<i>Technique</i>	<i>Stages</i>	<i>Summary</i>
Memory technique (mnemonic) 1	Stage 1	
	Stage 2	
	Stage 3	
	Stage 4	
	Stage 5	
Technique 2 ...		
Technique 3 ...		

Step 3: Make up a plan for a vlog

Project Block 6: Share and review ideas from Project Blocks 2-5.

1. Discuss in pairs.

1. What vlogs do you watch/listen to? What do you like about them?

2. Which of the work in the Project Blocks do you think would be the most interesting and informative to include in a vlog?

2. Read *the learning strategy*. Start to plan your video using a Project diary. Remember, it should be no more than 5 minutes. When planning a learning vlog, follow a series of questions to clarify your objectives and how you plan to achieve them.

Learning strategy 6 - Educational vlogging focus -

Incorporating mystery/surprise / dynamic atmosphere and researched benefits

- When you are telling a short story through video, try to create an element of mystery so that the end has a 'twist'. For instance, open with a puzzle: flash 10 new vocabulary items, hide them, then ask, "How many can you recall? Stay to the end, we'll test again."

- Begin in a way that will mean the viewer wants to continue watching to clarify doubts.

- Add images to intrigue the viewer and create a dynamic educational atmosphere. Visual intrigue: before/after memory score meter.

- Encourage active learning elements, such as prompts for viewers to solidify their understanding. Reveal twist: Show viewers that they now recall all 10 words after using the mnemonic and tying it back to research.

Project diary – Plan the vlog

1) Who is your target audience? (consider age, English proficiency level, educational background)	
2) What specific memory challenges do they face when learning English?	
3) What are your objectives? What do you want viewers to <i>know/be able to do/or feel motivated to try</i> after watching this vlog?	

Essay Link 1: Draft a working thesis answering: <i>What can improve memory performance?</i>	
4) Look back at your Project Block 3. Does your storyline follow the 5 stages? If not, what's missing?	
5) How do you structure the vlog to keep it digestible and engaging? a) Do you hook viewers with a mini-mystery? b) Does the story contain some suspense to make the vlog more compelling? c) Have you got an idea for a twist or reveal near the end?	
6) What visuals, countdowns, and on-screen prompts will you use to explain and demonstrate each memory technique? What active learning tasks will you incorporate so viewers can practice during the video?	
Essay Link 2: Which of these techniques will become your essay body paragraph topics?	
7) Do you use information from Project Builder 4? Are there experts or research studies you can reference to add credibility to the information you're providing? Are you supporting your claims with reliable sources (authors, years, and relevance)? What additional reliable sources can you provide for viewers who want to explore the topic further?	
Essay Link 3: List sources + key findings for each technique; note overlaps/contrasts among sources.	
Essay Link 4: Convert essay takeaways into brief practical applications in the vlog.	

Step 4: Revise and assess the script of the vlog

Project Block 7. Write the script

1. Write the script for any parts of your vlog that you need to. Use the Key phrases to help you.

Key phrases: Making a vlog

<u>Starting a vlog</u>	<u>Linking between parts</u>	<u>Ending a vlog</u>
- Welcome to ..., with your hosts ... and ... - Today we're talking about ... - We're going to start with ...	- Now we're going to talk about ... - The next part of the show is about ...	- Well, that's all we have time for this week. - Please subscribe if you enjoyed the show. Thanks for listening, everyone!

2. Practise the different parts of your vlog.

3. Study the six-criteria assessment for the vlog.

1) Vlog composition and design evaluation			
Composition and structure	Design and visual appeal	Content completeness and informativeness	Argumentation and persuasiveness
2)Text quality assessment			
Content depth and problem disclosure	Coherence and consistency	Language and editorial quality	
3)Project and research methodologies evaluation			
Professional and pedagogical problem-solving strategies		Information and research methods	
4) Presentation quality assessment			
Content impact		Audience engagement	
5)Project contribution evaluation			
Relevance and originality		Creativity and task quality	
6) Speech and learning skills development assessment			
Communication skills	Public speaking skills	Personal development	

4. Check that you consider the criteria and that the script is consistent and logical. Add short actions to the linguistic and speech registers. Edit grammar, vocabulary (adjectives to create an educational atmosphere), and the style of language of your script, if necessary.

Project diary– The script of the vlog

Vlog composition and design – Key moments and their order
Text quality
Project and research methodology
Presentation quality
Project contribution
Speech and learning skills

Step 5: Follow the plan, record the vlog, and show it to the target audience

Project Block 8. Film a professionally focused vlog sharing the best memory techniques for learning foreign languages.

1. Make a recording and follow the plan.

1. Find a quiet space to record your podcast.
2. Record each part of your podcast separately.
3. Try not to worry about making mistakes.
4. Use software to edit your audio and combine the different parts into one audio file.
5. If possible, add interests to your vlog by using music.
6. Save the file in a safe place!

2. Use the planner to check that your vlog is ready. If necessary, edit it.

Project diary – My revision planner

1. What are you going to use for filming the video?	
2. When are you going to do it?	
3. When will the setting be?	
4. Do you need to film in a realistic setting or use props to create the setting?	
5. What are the key moments of the video? How can you make them stand out?	
6. What type of 'shot' (picture) throughout the video do you use to keep viewers interested? 1. a wide shot: this shows the whole scene; 2. a close-up shot: this usually shows only one thing or one person; 3. a split-screen shot: this can show a close-up of more than one thing or person at the same time.	
7. What software do you need?	
8. Do you check the length of the script that has been allowed? Do you time yourself? How long does each part of the vlog take? Do you add your estimates of timing to each part?	
9. Do you read through the script, including any time for action to take place?	
10. Do you edit if it seems to be too long?	
11. Do you use some effects (words on the screen) to replace longer parts and make sure you stay within your time?	
12. What is actual runtime after edit: _____. Target runtime (max 5 minutes) Did pacing feel too fast, too slow, or about right?	
13. Do you close by reviewing the main takeaways and inviting viewers to try the techniques in real study sessions?	
14. Do you ask viewers to share results and tips so the community learns together?	

Step 6: Reflection and peer-assessment questionnaire

1. Think about your vlog in the following aspects and evaluate them. Circle or highlight the score that best matches your work (1 = needs major improvement; 5 = excellent).

Creativity	The vlog presents information in a visually clear and inventive way. Graphics, examples, and storytelling choices effectively highlight the key points.	1 2 3 4 5
Digital literacy	I can select and use appropriate effects, digital tools, apps, or websites to convey information. Viewer analytics and comments show the audience reacted as I expected.	1 2 3 4 5
Credibility	The project draws on well-researched benefits and reliable sources. Citations are transparent, and the content engages the audience while maintaining their trust.	1 2 3 4 5
Critical thinking	I evaluate the quality of information, detect bias, and compare multiple viewpoints before including them. Arguments in the vlog are logical and evidence-based; reflections show how I might improve.	1 2 3 4 5
Problem-solving skills	I identify technical or communication challenges during planning, filming, and editing, then test and apply solutions (e.g., fixing audio issues, reorganising content flow). Time and resources were managed efficiently.	1 2 3 4 5

2. Answer the questions.

<i>Your takeaway box</i>	
What did you learn during the research process that was unexpected?	
Are you pleased with your vlog? If yes, why?	
What would you do differently if you were to complete this project again?	
Which skills do you feel you developed or strengthened while creating and presenting your vlog?	
Are there any technical or performance aspects you would like to improve for future vlogs?	

What did you learn about yourself while working on this project?	
Did you encounter any challenges while creating your vlog, and how did you overcome them?	

3. Watch/listen to your groupmates' vlogs. Complete the table entry for dimension 1–6. Circle or highlight the score that best matches the work (1 = needs major improvement; 5 = excellent).

Vlog title and presenter	
1. Language (accuracy, range, pronunciation, discourse organization) 1 2 3 4 5	
2. Pedagogical clarity (the explanation teachable, scaffolds are used) 1 2 3 4 5	
3. STEM accuracy (concept correctness, data use, safety notes) 1 2 3 4 5	
4. New insight I gained from the vlog 1 2 3 4 5	
5. Most surprising/engaging moment 1 2 3 4 5	
6. Question / suggestion that made me think 1 2 3 4 5	

The theoretical and methodological considerations outlined above served as the foundation for designing a structured learning sequence centred on the STEAM-oriented learning vlog (SOLV). This pedagogical design operationalises the key principles of project-based and inquiry-driven learning within a competence-based framework, translating them into step-by-step classroom activities that integrate language development, digital literacy, and reflective practice. To evaluate how effectively this design supports the development of professionally oriented communicative competence in pre-service English teachers, a pilot implementation was conducted. The following section presents the structure of this implementation, its methodological design, and the empirical results obtained.

Pilot Implementation: Methods and Findings

Design: A semester-length, two-arm cluster-randomized pilot study examined the effectiveness of SOLV projects in an English practical course for pre-service English teachers. Four groups were randomly assigned at the group level to one of two arms: Experimental (English practical course with a SOLV project) or Control (English practical course with a standard research/presentation project without vlogging). Pre- and post-within-group changes and between-group differences were analyzed.

Setting and participants: The study was conducted at Kyiv National Linguistic University. Participants were 60 pre-service English teachers enrolled in the English practical course (four parallel groups of 15 students each).

Intervention: Experimental Over 5–6 weeks embedded in the regular course, students completed a SOLV sequence (“Boost Your Memory”) integrating professionally oriented communicative competence (reading, writing, speaking, listening, mediation) with STEAM-framed content and digital production. The scaffold included: 1. driving question and topic scoping (memory techniques for language learning); 2. multisource reading and evidence building; 3 script/storyboard drafting and peer revision; 4. filming and editing (mobile apps such as InShot/FilmoraGo permitted); 5. publication on the group LMS, followed by audience feedback and guided reflection. Teacher support (brief workshops/consultations) was provided within scheduled class hours; no separate methodology course was involved.

Control-group students completed a standard project aligned with the same language objectives (topic research, in-class oral presentation, and a short written brief) without vlogging, video production, or explicit STEAM framing. They received routine instructor feedback typical of the English practical course.

Course-embedded measures: All instruments were administered pre- (Week 1) and post- (Week 6): POCC proxy rubric (0–20). Course-aligned indicators of professionally oriented communicative competence, scored on a teaching-like task (e.g., 3–5-minute explainer/micro-teaching/vlog narration). Five criteria × 0–4: (1) Linguistic accuracy, range, and pronunciation;

(2) Discourse organisation; (3) Audience adaptation and clarity; (4) Mediation moves (rephrasing, exemplifying, linking visuals/data); (5) Professional and sociocultural register. Totals: 0–5 Minimal; 6–10 Developing; 11–15 Proficient; 16–20 Advanced. Note: A separate Mediation task (0–20) is used as convergent evidence for the POCC mediation subscore and is not added to the POCC total. Speaking performance (0–20): 3/5-minute monologic task scored with the course rubric (fluency, accuracy, pronunciation, discourse organization).

Mediation task (0–20). “Explain-it-like-I’m-a-beginner”: transform a ~150-word technical paragraph into learner-friendly language; rubric aligned to CEFR mediation descriptors (selection/simplification; paraphrase/explicitation; linking visuals/data; terminology management; coherence).

Digital-literacy self-efficacy. Ten-item Likert scale (1–5) covering planning, producing, editing, citing sources, and handling feedback in digital formats (internal consistency α estimated post hoc).

STEAM content and design quality (fidelity, Experimental arm only). Five-item presence checklist plus a quality rubric ($5 \times 0-4$; total 0–20): (1) conceptual accuracy of science/tech content; (2) data representation & interpretation; (3) multimodal coherence (visuals–narration–captions alignment); (4) accessibility and safety/ethics (captions, legibility, audio, safety notes where relevant); (5) evidence and citation (transparency, recency, relevance). Used to document implementation quality, not as a learning outcome.

Engagement/reflection: brief six-item exit survey and a structured reflection prompt (qualitative). All rubrics and prompts were part of normal assessment in the English practical course and were used identically across groups (except that the experimental group performed the SOLV variant of the final task).

Procedure and timeline:

Week 1 (baseline & allocation). Baseline assessments for both arms included the POCC proxy (0–20), speaking (0–20), mediation task (0–20), and digital-literacy self-efficacy (10-item

Likert). Cluster randomisation at the class level by an administrator independent of instruction; allocation revealed after baseline. Both arms received identical syllabus, contact time, topics, and deadlines. (For the SOLV workflow, see Intervention.)

Weeks 1–2 (planning). Both arms: topic scoping and source gathering. Experimental classes commenced SOLV planning consistent with the Intervention specification; control classes planned a standard research/presentation project. Weekly fidelity checks recorded time-on-task and (for Experimental only) presence of required STEAM elements.

Weeks 3–4 (development). Experimental: continued SOLV development per Intervention (scripting/production stages). Control: prepared slide-based presentations. Learning-strategy evidence (planning logs, version history) was collected in both arms. Instructor coaching minutes were held equal across arms.

Week 5 (delivery & peer feedback). Experimental: SOLVs published on the LMS with rubric-aligned peer feedback. Control: live slide presentations with the same peer-feedback prompts. For research scoring, videos were anonymized where requested; only course instructors had access to identifiable files for grading.

Week 6 (reflection). Post-assessments were repeated for all measures; the exit survey and structured reflection were completed. Contamination control: no cross-arm sharing of artefacts until all post-tests were finished.

To estimate positive change on each outcome, we calculated pre–post differences (Post–Pre) and expressed gains relative to each scale’s total range. Figure 1 visualises the results. The Experimental group shows consistent, substantive gains across all indicators, whereas the Control group shows only small changes. The largest improvements are observed for the POCC composite and for speech competence, especially mediation, followed by oral production, learning-strategic competence, and sociocultural competence. Linguistic competence, including phonetic, lexical, and grammatical subcompetences, also rose appreciably. Digital-literacy self-efficacy rose meaningfully in the Experimental arm. By contrast, the Control arm exhibited only modest, non-significant movement. Overall, the pattern in Figure 1 supports

the effectiveness of SOLVs in strengthening POCC and related competencies.

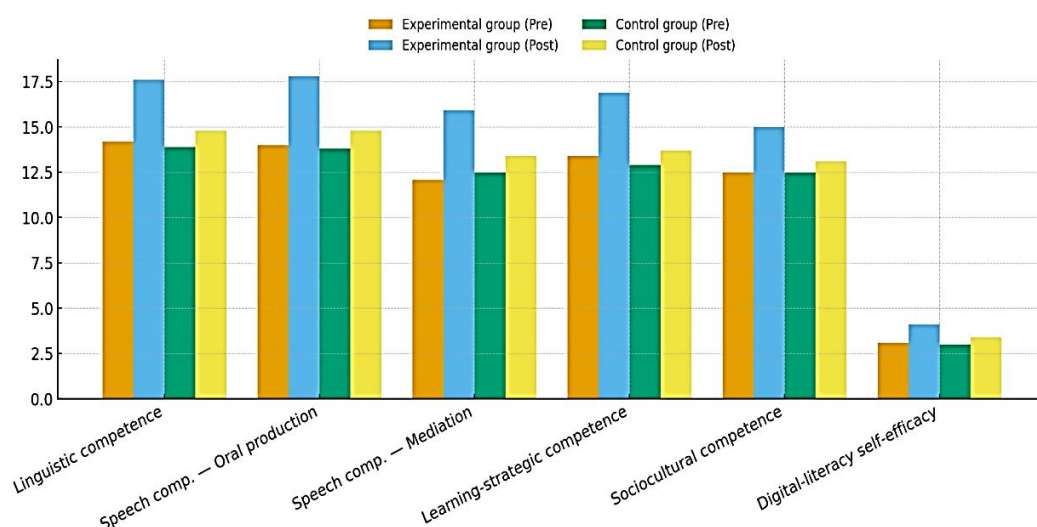


Figure 1. Effect of STEAM-oriented learning vlogs on POCC and related outcomes: Experimental vs. control, pre- and post-means. Source: developed by the author

The findings support the hypothesis that SOLV projects are an effective vehicle for developing POCC. Gains were most evident in linguistic competence (clearer pronunciation; more precise lexico-grammar) and speech competence, both in oral production (greater fluency and discourse control) and mediation (clearer paraphrase, explicitation, and terminology management for non-experts). The vlog workflow also strengthened learning and strategic competence through more systematic planning, monitoring, and revision, and improved sociocultural competence by utilizing audience-aware register choices and inclusive presentation. Digital-literacy self-efficacy rose as a transversal enabler of these outcomes. Importantly, higher STEAM content and design quality within the Experimental arm were associated with larger mediation gains, suggesting a fidelity–impact link. By combining inquiry-driven, multimodal tasks with structured reflection and peer assessment, the intervention advanced language development while cultivating the broader competencies expected of contemporary language professionals.

Conclusions

This study provides initial evidence that SOLVs are a viable, high-impact vehicle for developing POCC in pre-service English teachers. Pilot evidence from a cluster-randomised, pre-post comparison with a business-as-usual project supports these claims: the SOLV groups outperformed controls on POCC-aligned indicators, speaking, mediation, and digital-literacy self-efficacy, with the largest gains in linguistic accuracy/pronunciation, oral discourse control, and mediation moves. Moreover, higher STEAM content/design quality co-occurred with stronger mediation gains, suggesting that fidelity to the STEAM brief (conceptual accuracy, data representation, multimodal coherence, accessibility, transparent citation) is pedagogically consequential rather than decorative. Overall, SOLV integrates authentic STEAM content with digital pedagogy, advancing POCC and 21st-century teacher capacities in tandem. Students are not only learning English; they are learning to teach through English. Preliminary practicum observations suggest that SOLV skills are transferable to real classroom settings.

This was a short, single-institution pilot with intact classes and course-embedded measures. Next, a stratified multi-site cluster trial (encompassing diverse universities) with a longer follow-up should test durability and classroom transfer, and assess whether STEAM design quality mediates language gains. Further work will design and evaluate targeted activities to deepen pre-service teachers' POCC in blended higher-education environments.

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