
LIQVID
AI
2026
LEARNING
APPROACH
www.liqvid.com

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Overview

The basic tenets of Liqvid's approach are as follows –

1. An established and well-accepted learning methodology or approach. This ensures that the program actually helps the children learn.
2. The teacher is a key part of the whole teaching/learning process. Technology serves to empower teachers and make their lives easier so that they can become more effective.
3. Cutting-edge and appropriate technology to effectively implement the right learning methodologies
4. This Learning program works as a composite system consisting of software, hardware, books, teachers, and students. It combines all the best features of these elements into a complete and effective learning program.
5. Continuous improvement.

1.A Sound Pedagogical Basis

The program is inspired by Gagne's 9-event model of instruction. **Robert Mills Gagné** (August 21, 1916 – April 28, 2002) was an American educational psychologist best known for his *Conditions of Learning*. He instructed during World War II when he worked with the Army Air Corps training pilots. He went on to develop a series of studies and works that simplified and explained what he and others believed to be good instruction. Gagné was also involved in applying concepts of instructional theory to the design of computer-based training and multimedia-based learning.

Gagne's model of instructional design is based on the information processing model of the mental events that occur when learners are presented with various stimuli and focuses on the learning outcomes and how to arrange specific instructional events to achieve those outcomes.

Robert Mills Gagné
(August 21, 1916 – April 28, 2002)

2. Liqvid's Nine Instructional Principles

1. Gain Attention (Reception)

The program is is designed to ensure that the course title and description are engaging and capture learners' attention. It incorporates attention-grabbing methods into the instructional design, such as multimedia presentations, intriguing questions, or real-world scenarios.

All our courses are structured according to the needs and requirements of the learners. The courses are divided clearly into chapters and follow a logical, well-thought-out approach. The title of each chapter reflects the coverage of the chapter and is articulated in an interesting way. Many times, the learners are prompted about their present state of knowledge to arouse their curiosity and engage them.

2. Inform Learners of the Objectives (Expectancy)

The entire program is based on clearly stated measurable learning objectives that are aligned with the course's overall goals. It includes an overview of the course structure and how each module contributes to achieving the learning objectives.

The entire program is based on a robust scientific methodology that allows the learner to get a very clear idea of the learning objectives and the progress they are making. The program is mapped to CEFR-based 'Can-Do' statements, which clearly articulate what the learner will be able to do after successfully completing the program. These objectives are further broken down for each chapter or session. There are regular assessments – diagnostic, pre, post and intermediate that allow the learners and teachers to keep an accurate track of the progress of the learner. There are also regular quizzes and AI-based feedback on different student activities, including spoken and written exercises.

3. Stimulate Recall of Prior Learning (Retrieval)

The program design includes activities or discussions that prompt learners to recall and connect prior knowledge with new concepts. It Incorporates methods that encourage learners to reflect on and share their existing knowledge related to the course content.

The program is designed to ensure that learning is structured in progressively challenging stages. Additionally, concepts are repeated as required for a seamless learning experience.

4. Present the Stimulus (Selective Perception)

The program includes diverse and engaging materials to present new information effectively. It utilizes various instructional methods, such as lectures, case studies, and multimedia, to deliver the content in a way that accommodates different learning styles.

The learners are provided multi-sensory stimuli for them to absorb effectively. Inputs are provided in Video, audio and text formats to accommodate all learning styles and preferences. Multimedia input also helps the learners stay engaged for longer, leading to better learning and retention.

5. Provide Guidance for Learning (Semantic Encoding)

Semantic encoding is the process of converting sensory input into meaningful, long-term memories by associating new information with existing knowledge and experiences. This program uses day-to-day contexts and links them to the learning material and activities. It uses scenarios like interaction with friends and family, social and professional contexts to ensure that the learning is retained for the long term.

6. Elicit Performance (Responding)

The program includes assessments that require learners to actively apply the knowledge and skills acquired. It incorporates activities, projects and discussions that prompt learners to demonstrate their understanding through practical application.

The program elicits responses both in a self-study mode as well as in a classroom. The teachers use the software in the classroom to conduct group activities which are scored. Learners also get plenty of opportunities to provide their responses as they work on their computers and mobiles, doing a range of exercises comprising Role plays, quizzes and games.

7. Provide Feedback (Reinforcement)

The program has an established system for providing timely and constructive feedback on learners' performance. It clearly communicates how feedback ties into the grading criteria and how it contributes to reinforcement and improvement.

The feedback is provided at various levels – there is a pre-test and a posttest. AI-enabled feedback is provided on speaking and writing activities. There is also feedback on the hundreds of quizzes, games, and other exercises that the learner attempts.

8. Assess Performance (Retrieval)

The program clearly defines the grading scale and criteria for assessing learners' performance. This is done by designing assessments that effectively measure the achievement of learning objectives.

All the assessments and exercises are mapped to the learning objectives of the program. Students get continuous and comprehensive feedback on their progress.

9. Enhance Retention and Transfer (Generalization)

The program provides additional resources and support services that help learners transfer their knowledge to real-world situations. The activities and assignments are designed in a way that encourages learners to apply their knowledge in practical scenarios beyond the course.

2.1 Other Key Theories

1. The Mirror-Image Language Learning Method

A major stumbling block in the way of the learner wanting to speak good English is the lack of opportunities to practice speaking. In a classroom setting, only a few students get a chance to speak, given the paucity of time. Additionally, most learners are not in an environment where English is spoken. To make matters worse, learners who are not proficient do not speak for fear of being ridiculed.

This method of Mirror -Image learning helps solve this problem. In this method, students record their own videos, which provide a mirror through which students' self-correction, self-regulation, and self-evaluation are realized. The mirror provides not only the full view of one's own English-speaking skills but also the image of proficient speaker's recordings for appreciation and imitation.

The process increases students' interest and motivation in autonomous study and provides each of them with a mirror in which they can either look at themselves i or appreciate other's images in the mirror. Looking at themselves in the 'mirror' helps students find their mistakes and correct them and meanwhile enhance their confidence by continuously tracking the progress they are making.

2. Spaced Repetition - Ebbinghaus' Forgetting curve

The method of spaced repetition was first conceived by German psychologist Hermann Ebbinghaus. He created the "forgetting curve", a graph depicting the loss of information from memory over time. If a group of people is shown a word with its meaning, then the forgetting curve represents the percentage of the people in the group who remember the word at any given point in time. He argued, with the help of the curve, that without reviewing or repetition, our ability to retain information plummets. Therefore, a spaced repetition is necessary to retain information over a long time. A sample "forgetting curve" is shown in Figure 1 below. There are a few other notable observations that he made about the curve.

- Memory weakens over time, and the biggest drop in retention happens soon after learning.
- Logical organization and clear meaning in the information presented aids in retention.
- Psychological factors like sleep and stress can play a significant role in retention.

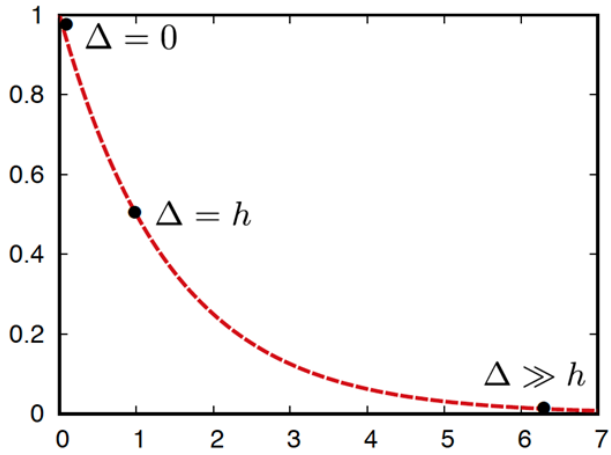
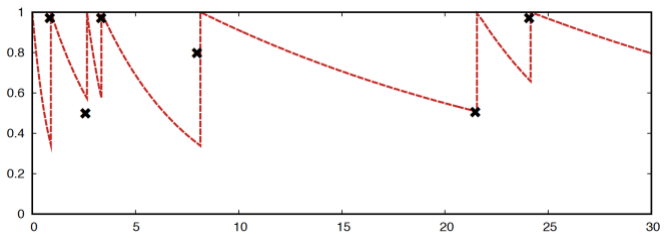


***Figure 1**: Ebbinghaus' Forgetting Curve depicting retention rate as a function of time. The half-life "h" of the curve, at the point of 50% retention, is also marked.*



*Example student-word learning trace over 30 days: "x" marks the observed recall rate p for each practice session, and half-life regression aims to fit model predictions p_{theta} (dashed lines) to these points**

3. CAPE Methodology

3.1 Introduction

At Liqvid, we follow a practical and contextual approach to learning. Learning is best imparted when it is contextualized. Learning anything in the context of where it will eventually be used makes it easy for students to understand the relevance of what's taught and to retrieve and apply the learning in the appropriate situation. The concepts are broken down into smaller parts, and the learning is structured such that the students understand a concept well before moving on to the next level.

To meet this objective, we design all our learning products by using the **CAPE Methodology,** which follows the process of moving from concept to evaluation.

I. **Concept**: Students watch engaging videos focusing on core learning objectives of a topic and self-learn.
II. **Activity**: Students indulge in teacher-led classroom activities, such as peer interaction, role plays, and group problem-solving activities.
III. **Practice**: Practice focuses on revision and reinforcement of concepts covered in the classroom. There are three elements of practice:
    a. **Role plays**: Students observe a recorded role-play and then enact the scenario.
    b. **Vocabulary**: Students practice pronunciation of specific words.
    c. **Quiz**: Students answer questions relevant to the topic.

IV. **Evaluation**: This step focuses on the evaluation of three levels of accomplishment: Knowledge, Skills and Attitude (KSA).

Benefits

There are multiple benefits to this approach:

- Very high retention of learnt skill
- Quick access
- Anytime consumption
- Increase in the likelihood of undergoing learning

3.2 CEFR Framework

The Common European Framework of Reference for Languages (CEFR) is a widely recognized standard for measuring language proficiency. Developed by the Council of Europe, it provides a comprehensive framework for assessing and describing language skills across six levels: A1, A2 (Basic User), B1, B2 (Independent User), and C1, C2 (Proficient User).

The CEFR encompasses four primary skills: listening, speaking, reading, and writing. Each level specifies what a learner can do in these areas, helping educators create curricula, assess progress, and ensure consistency in language teaching and testing. For example, a B1 level indicates that a learner can understand the main points of clear standard input on familiar matters and can produce simple, connected text.

The framework promotes transparency in language education and enables learners to set clear goals. It also facilitates mutual recognition of language qualifications across countries, making it easier for individuals to study or work abroad. By focusing on communicative competence, the CEFR emphasizes practical language use

in real-life situations, supporting learners in becoming effective communicators. Overall, the CEFR serves as an essential tool for language learners, teachers, and institutions worldwide.

The one drawback of CEFR is that it is mainly meant for adult learners. To overcome this, we have used Pearson's Global Scale of English (GSE), which has a special provision for your learners while being mapped to the CEFR scale.

3.2.1 Global Scale of English

Global Scale of English (Pearson n.d.) is a standardized, granular scale which measures English language proficiency. It specifies what a learner "can do" at each point on the scale across speaking, listening, reading, and writing skills. The scale is designed to motivate learners by giving more granular insight into learning progress. It serves as a standard against which English

language courses and assessments worldwide can be benchmarked, offering a truly global and shared understanding of proficiency levels.

The GSE "can do" statement template has been used to develop the course content and the assessment questions for Liqvid's online learning platform. The content and questions corresponding to levels are created using the GSE ranges as mapped in Table 2. For instance, GSE Range for Level 2 is 22 to 25 according to the mapping in Table 2. To create content for Level 2, "can do" statements corresponding to GSE levels 22 to 25 are used.

3.2.2 Can-Do Statements Mapping

These frameworks follow a 'Can-do' approach, which is to say, they establish what a learner is able to do at that level. In this model, language proficiency is considered a skill.

All the sessions in our program are mapped to the 'Can-do' statements. A sample of this is given below -

Level 1

Session Number	Session Name	Skill	Can Do Statements	GSE Score
S01ILT	Meena has fun in the garden	Listening	Can understand a few basic words and phrases in a story/poem that is read aloud to them. For example, tree, bee, log, dog, fun, sun, red, head, etc. Can recognize familiar words and phrases in short, simple songs or chants.	18
S01ILT	Meena has fun in the garden	Speaking	Can name a few everyday objects. Such as things in the garden: trees, birds, bees, grass, leaves, flowers, etc.	10
S01ILT	Meena has fun in the garden	Reading	Can read a text in the correct direction from left to right and from the top of the page to the bottom. Can identify the initial sound in simple words. For example, /t/ in tree, /f/ in fat, /r/ in red, etc.	14
S01ILT	Meena has fun in the garden	Writing	Can write the letters of the alphabet in lowercase and uppercase.	10

3.3 Teacher is the Key

Our learning methodology assumes that the best learning of a language is achieved through a combination of classroom learning and self-practice. Half of CAPE methodology – Concept, and Activity – is fulfilled in the classroom by the teacher. The teacher presents the concept through a video and then conducts activities around the concept.

Teacher is a key player in our language learning system. Our methodology has been designed from the ground-up as Blended learning where the best outcomes are achieved by the joint efforts of the teacher and the students. There is separate software for teachers to use in the classroom and a separate one for the students to practice by themselves. This is a fundamentally different approach from most other software, where the same software is used in the classroom as well as for self-study.

The software is designed to make life easy for teachers while achieving better student outcomes. These are the ways in which the teachers are able to provide a more effective learning experience by using the software –

1. **No requirement for Elaborate qualification or Long Experience** – Our country has a massive educational system with more than 250 million children and over 1.4 school-going children. In this context, there are a large number of teachers who may not have been able to acquire the necessary skills and experience. The Liqvid system is designed so that even these teachers can provide a good and effective learning experience to the learners.

2. **Useful for good teachers** – Even as the tool supports the not-so-qualified teachers, it creates the opportunity for the good teachers to support their teaching as well. For example, the software may provide one way of responding to a query. The teacher can add on and explain other ways in which the same query can be answered as well. The question – 'How are you?' can be answered in multiple ways.

3. **Listening to a good Indian accent** – An important requirement for developing proficiency in a language is exposure to listening. Most of our children are in a language-challenged environment and do not get much opportunity to listen to good English. Additionally, there are wide regional differences in the way English is spoken in our country and teachers may also speak in their regional accent. Liqvid's system solves this problem by including hundreds of video and audio clips in a good, neutral Indian accent that expose the students to good language and

provide critical input in their quest to speak better.

4. **Multimedia** – It is common knowledge that multimedia increases student engagement and enhances retention, and that is why the use of multimedia is central to Liqvid's system. The concepts and activities are all based on cutting-edge 2D and 3D multimedia. This maintains learners' interest for longer periods and makes the teacher's work easier.

5. **Attendance system** – Attendance marking is a common way of starting a class. Liqvid's system is designed to make attendance faster and easier. The students are already pre-registered in the system, and the teacher only has to mark the absent students.

6. **Group Making** – Working together in groups is a key part of the student's growth and learning. However, making groups can be time-consuming and sometimes tricky, especially for an inexperienced teacher. Liqvid's system provides an easy and fast solution to this problem by automatically dividing the students into groups based on parameters like number of groups chosen by the teacher.

7. **Activities** – Good teachers know that a key part of developing language skills is to practise them in a classroom setting through class activities. However, planning and executing good activities is a non-trivial task, and many teachers may not be able to do this effectively. Therefore, the Liqvid program includes highly structured activities that make it very easy for teachers to carry them out and keep the students engaged in learning.

8. **Extensive Analytics** – Tracking and providing data on student usage and performance is an integral part of the Liqvid system. Teachers get a complete view of what the students are doing and how they are doing. They will know exactly how much time students have spent watching videos, doing quizzes and other activities, as well as how well they are doing on the assessments. This will help the teachers in planning their lessons as well as making sure that no student is left behind.

9. **Assignments** – Many teachers like to have their students do some work at home. Creating and evaluating these assignments is a tedious and time-consuming task and puts a lot of extra burden on the already overworked teacher. Liqvid's system makes this task very easy by providing an automated solution for giving and grading assignments. This reduces the burden on the teacher significantly while making the learning process more effective for the learners.

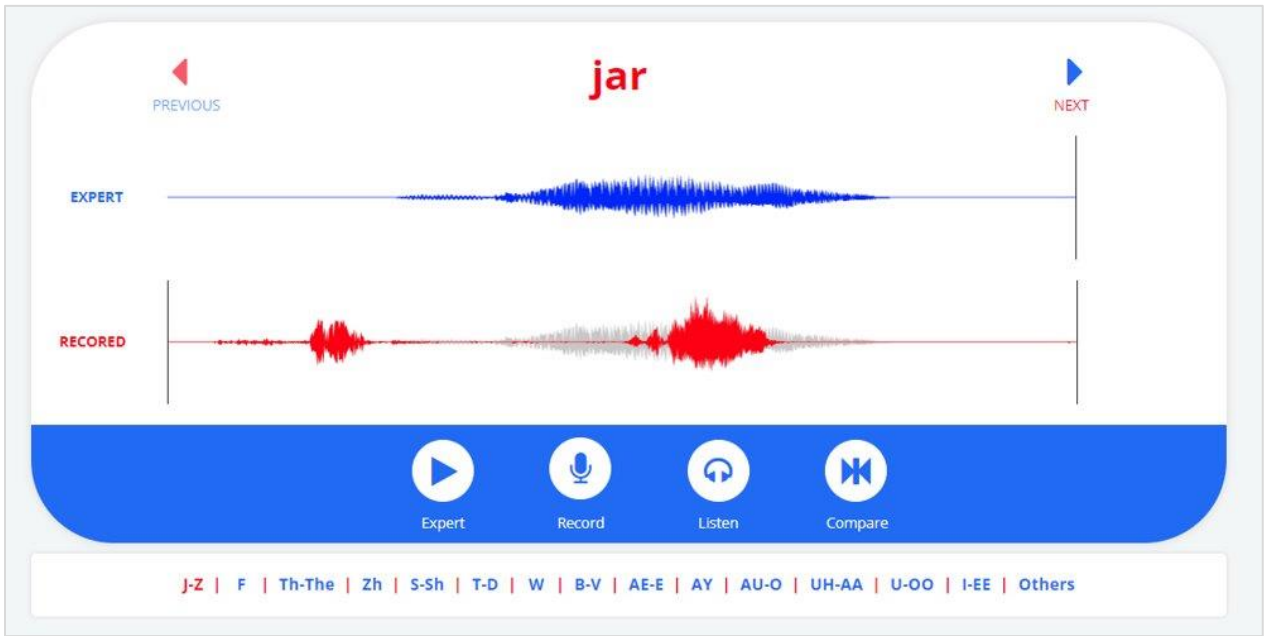
3.4 Cutting Edge Technology

3.4.1 Games

- Interactive games for student engagement.
- Students answer a given question.
- They score the goal if they get the answer correct.
- And don't if they get it wrong.

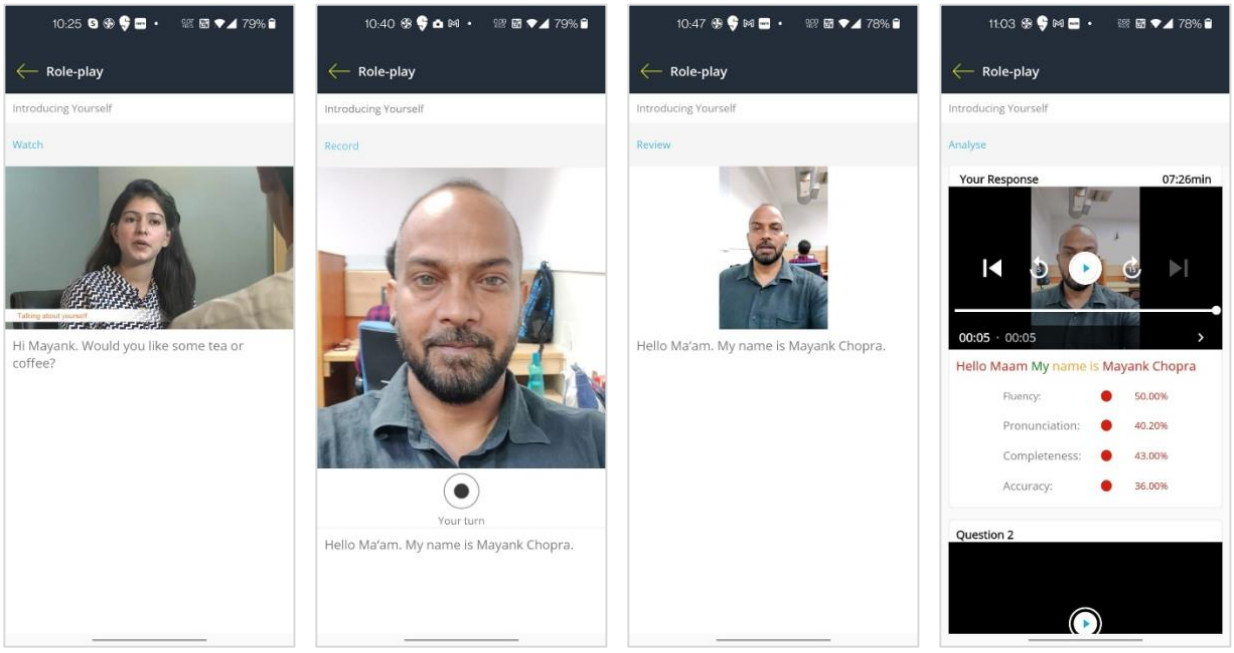
3.4.2 MTI

- This is to help correct pronunciation errors due to mother tongue influence.
- The words are categorized according to typical mistakes.



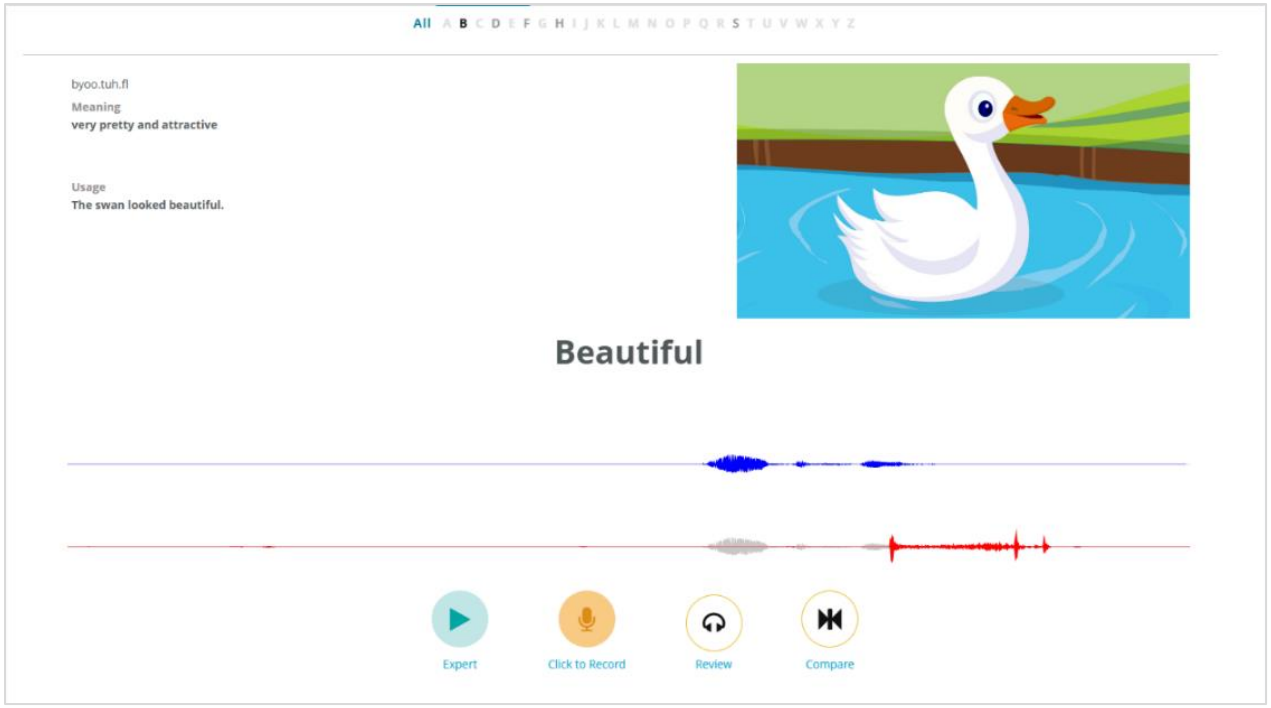
3.4.3 Roleplay

- It has four parts,
- Watch: model video enacting the scenario
- Enact: Record your response
- Review: playback your video
- Analysis: AI evaluation of your responses.



3.4.4 Vocabulary

- A comprehensive word list.
- Has an image, meaning and usage.
- Also, learners can listen, speak and compare.

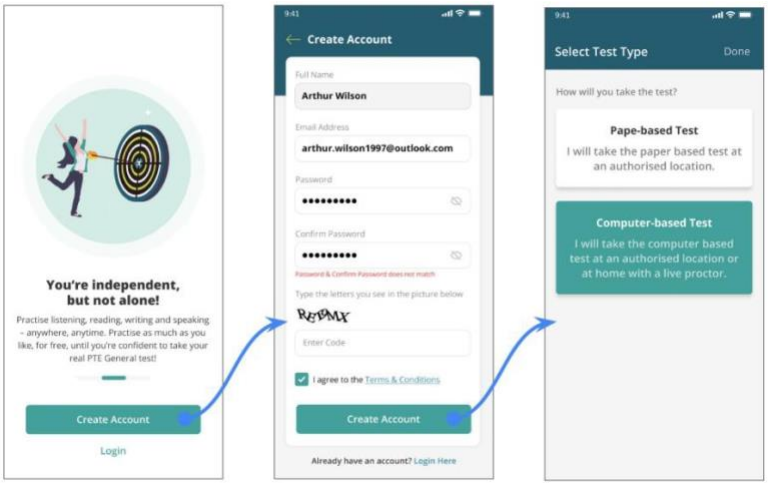


4 Gamification Features

The enhanced learning platform is integrated with some useful gamification features to enhance user engagement.

4.1 Select Test types

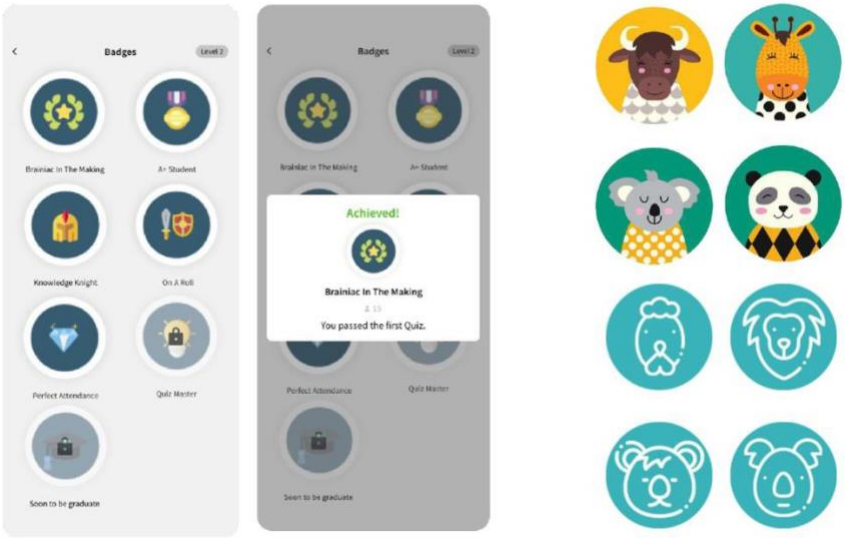
Learners can select between different types of tests like computer-based tests and paper based tests during the signup process.



4.2 Badges and Avatars

The platform has an integrated feature to give badges for predefined achievements.

- Distinct badges are awarded based on the activity and performance of the user.
- The badges listing shows all badges that can be earned in a locked state, motivating users to work towards unlocking them.
- Each badge can be tapped to view details on the achievement. The learners can also choose avatars (available in different styles).

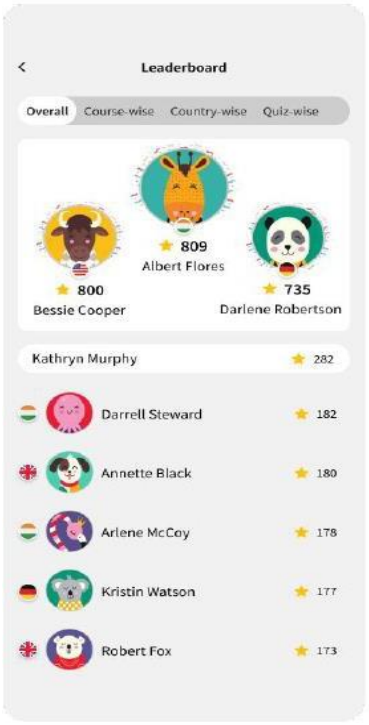


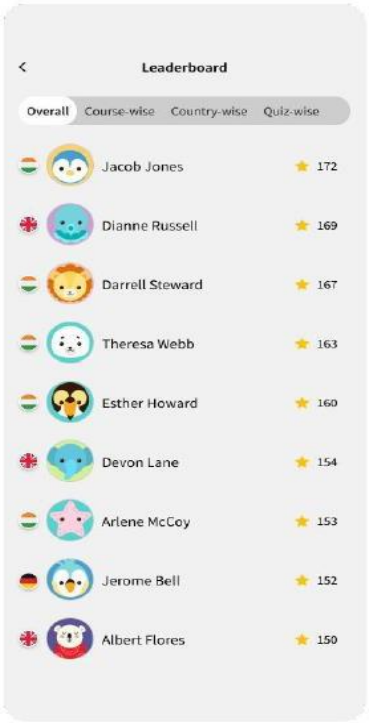
4.3 Leaderboard

The platform provides an interactive leaderboard with four tabs:

- Overall
- Country-wise
- Course-wise
- Quiz—wise

User points are shown separately in a quick view panel so they are easily visible.





4.4 Personalisation

5 Enhancing Learning with AI

Welcome to an overview of our innovative AI-powered features designed to transform learning experiences and elevate educational outcomes.

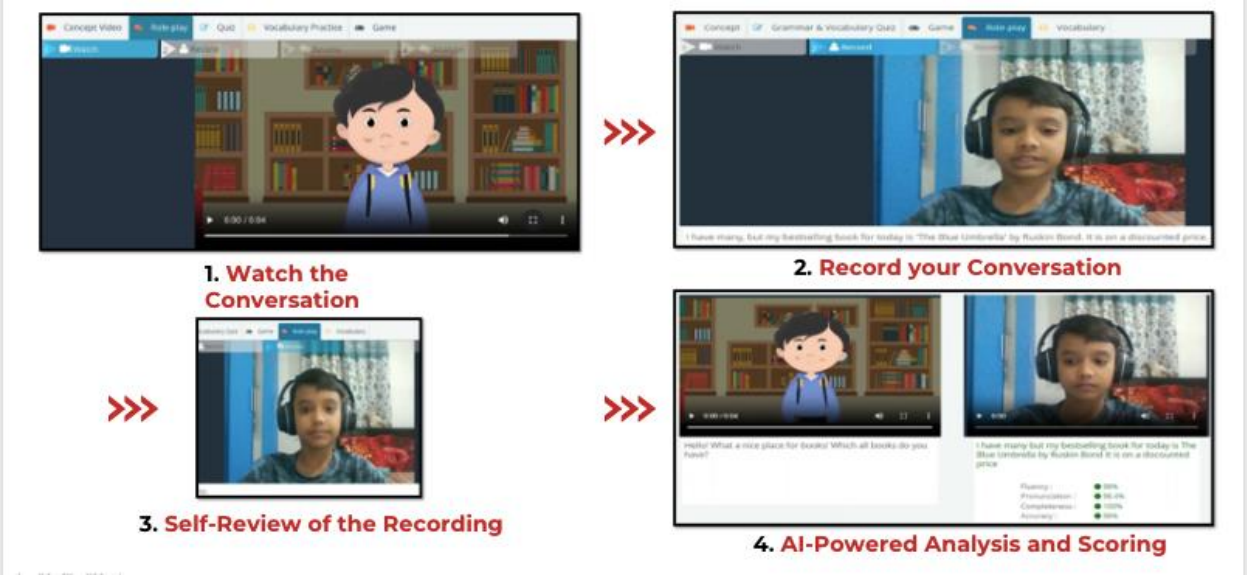
AI- Powered Learning Features:

5.1 Role Play

Transform Conversational Skills

- Real-Time Personalized Feedback
- Simulates Real-life Conversations
- Boosts Fluency and Confidence
- Unlimited Practice

How It Works: Learners interact with an AI that provides conversational prompts. The AI starts the conversation, and the learner responds using audio or video recordings.

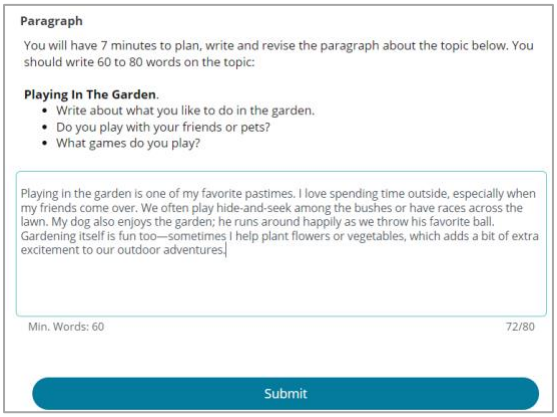


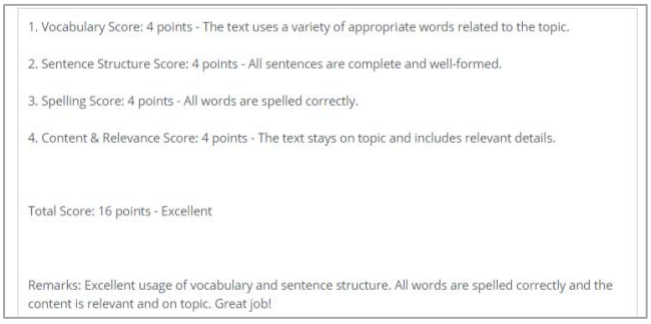
5.2 Writing Analysis

Refine Your Written Responses

- Detailed feedback on written skills
- Analyse responses on relevance, grammar, spelling, vocabulary, sentence structure.
- Enhances overall language proficiency

How It Works: Learner's plan, write, and revise a paragraph based on a topic or question. The resulting paragraph is then analyzed using AI to provide feedback and suggestions for improvement.



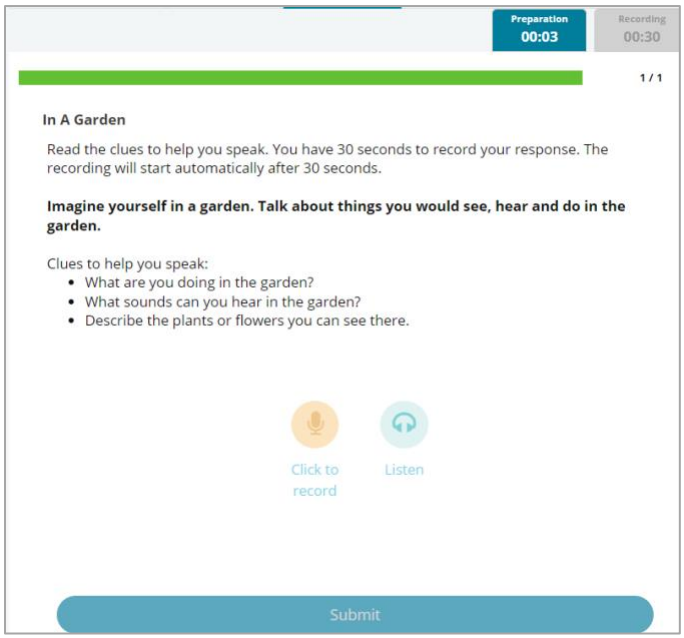


5.3 Free-Speech Analysis

Enhance Your Oral Expressions

- Speech practice improves verbal expressions and organization of thoughts
- Evaluates relevance, grammar, coherence
- Encourages effective communication

How It Works: Learners prepare and speak on a given topic or question. The spoken content is then transcribed and analyzed using AI.

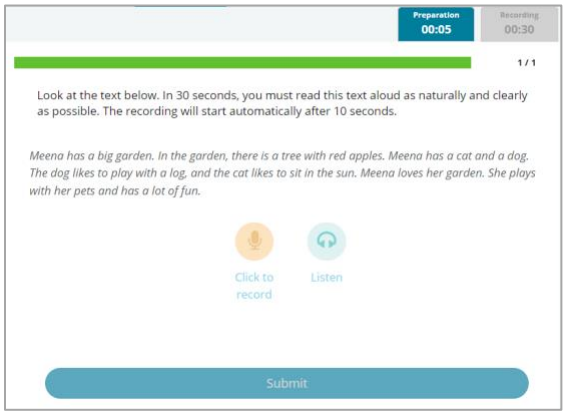


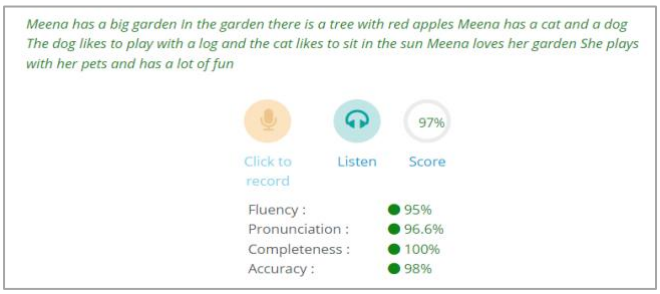
5.4 Read Aloud

Perfect Your Reading Skills

- Enhances spoken skills through practice
- Assesses fluency, pronunciation, accuracy, and completeness
- Strengthens reading fluency and pronunciation.
- Builds confidence in spoken language

How It Works: Learners have time to prepare before reading a provided text or paragraph. The spoken content is then transcribed and analyzed using AI.



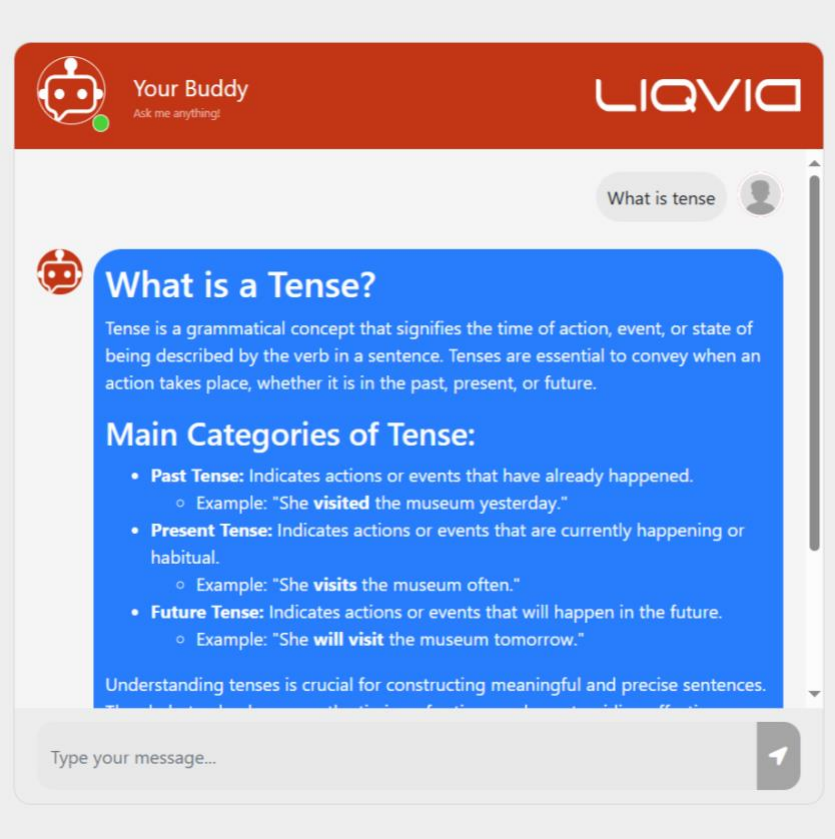


5.5 Personal AI ChatBot

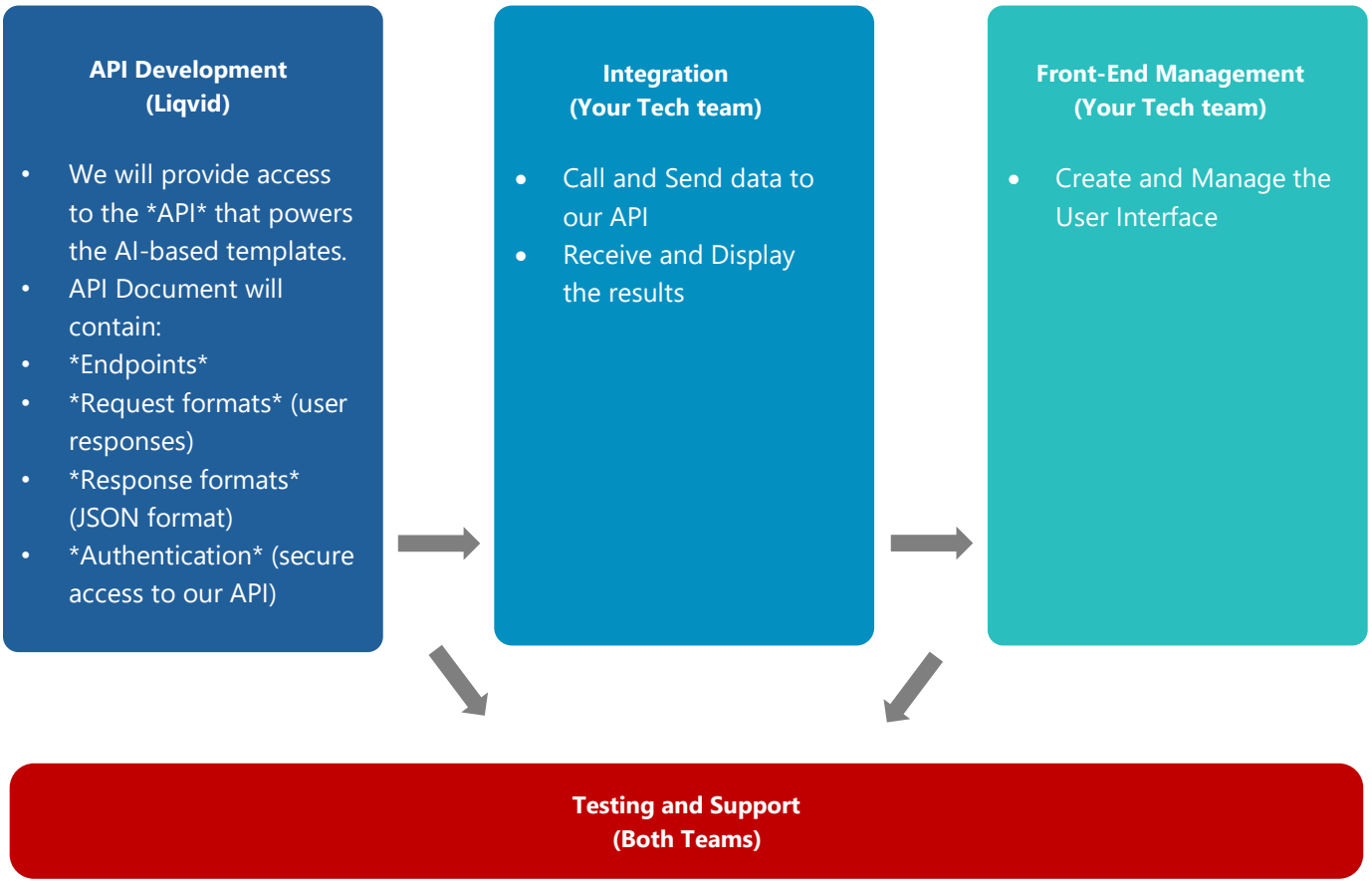
Your On-Demand Learning Assistant

- Real-Time Support
- Immediate access to academic support
- Provides on-the-spot help with concepts and questions
- Enhances self-paced learning and doubt resolution

How It Works: Learners can simply type any academic question or query, and the Chatbot will give a helpful answer on the spot, acting as a real-time personal assistant.



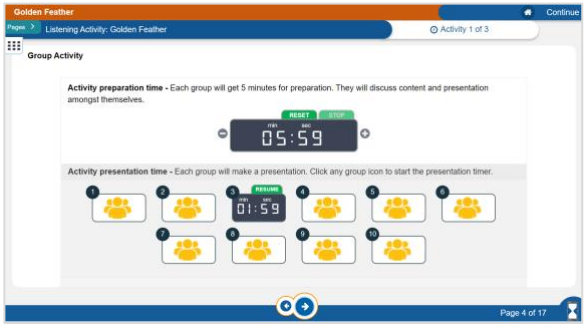
5.6 How AI Works

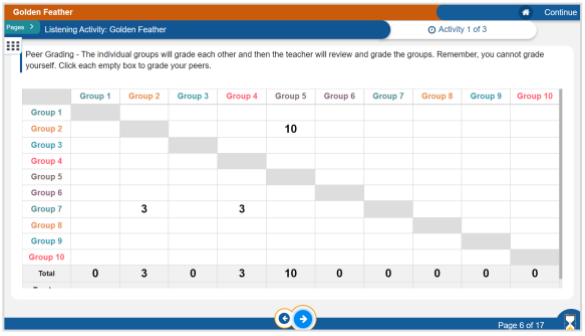


6 Other LMS features

6.1 Attendance and Group Activity

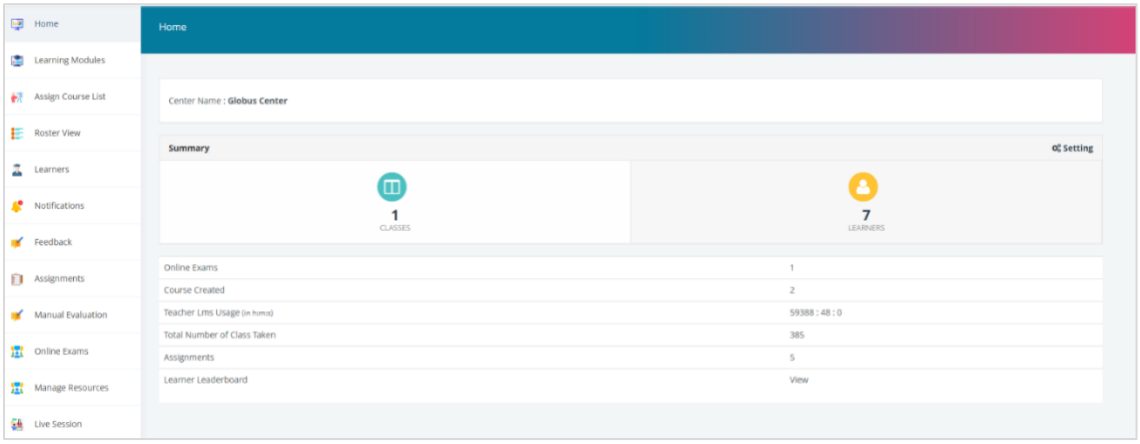
- Tools to help the teacher organize the class better.
- A list of all the students in the class will appear on the screen, and the teacher can mark the absentees.
- The system automatically creates the groups, and the teacher can modify them according to the activity.
- Well-structured classroom activity.
- The teacher plays the video.
- The teacher asks the groups to prepare the activity.
- Then, each group will give their presentation.
- Groups can rate each other, along with the teacher, as per the peer learning principle.





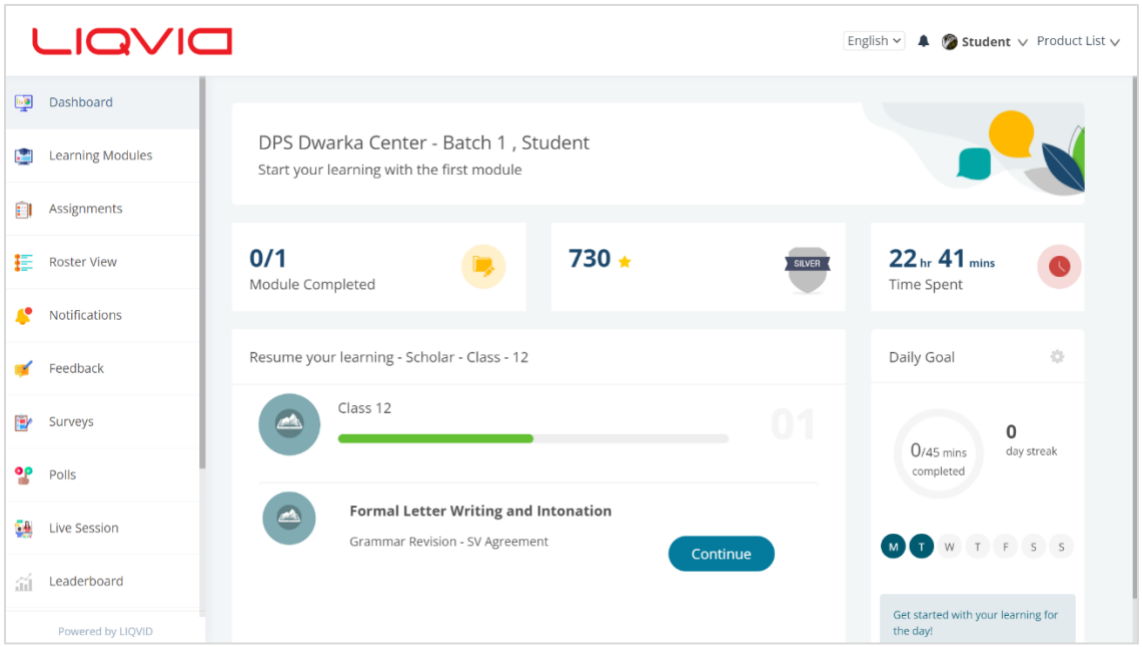
6.2 Dashboard / Analytics

A real-time user interface to track and analyze the current status of the batches and instructors



6.3 Student's Dashboard

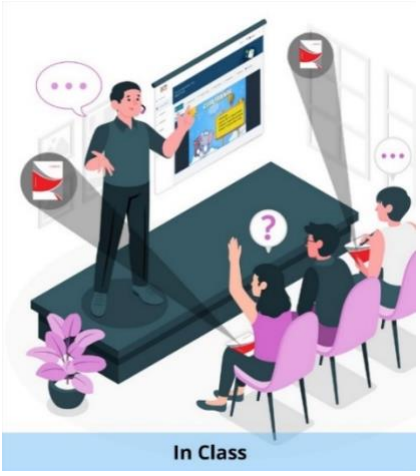
- Details of published courses, number of students and average time spent on the home screen
- Progress indicated with a Status field



7 A Composite System of Learning

7.2 ILT Software

Interactive Learning Technology software to facilitate virtual classroom sessions.



7.3 Student Software

Dedicated software for students to access learning materials and engage in e-learning activities.

7.4 Student Workbook

Digital and printed workbooks for students to complete exercises and assignments.

7.5 Teacher Workbook

Digital workbook for teachers to plan lessons, track progress, and manage student performance.

7.6 Technical Manual

A comprehensive guide on using the e-learning platform and its features.

7.7 Technology Backbone

The underlying technological infrastructure that supports the e-learning platform.

7.8 TTT (Train-the-Trainer)

Resources and training programs for instructors to effectively deliver e-learning content.

8.8 Helpdesk

Support services to assist users with technical issues and platform navigation.

8.9 Assessment & Certification

Tools for evaluating student performance and providing certifications upon course completion.

8 Continuous Improvement

A learning system is like a living organism – it needs to evolve based on feedback and the environment to become a better fit for its users. As users evolve, so do their expectations and requirements. It is therefore essential that the learning program adapts and continues to stay relevant and effective.

Liqvid's program is continuously updated based on the feedback received from its users and learners. There are two broad strategies –

Kirkpatrick Model – The Kirkpatrick Model is a globally recognized method of evaluating the results of training and learning programs. It assesses both formal and informal training methods and rates them against four levels of criteria: reaction, learning, behaviour, and results. We focus on the first two –

1. **Reaction** - The first level of criteria is "reaction," which measures whether learners find the program engaging, favourable, and relevant to their requirements. This is done by capturing the learners reaction through quick responses as well as surveys. For example, learners have an option to respond whether they like a particular video or not. If many students are saying that they do not like it, we change the video.

2. **Learning** - Level 2 gauges the learning of each participant based on whether learners acquire the intended knowledge, skills, attitude, confidence and commitment to the training. Learning is evaluated through pre-learning and post-learning assessments to identify accuracy and comprehension.

User Behaviour – We analyze the data to ascertain content that may not be performing well. For example, if a particular question is being answered incorrectly by almost everybody, it means that it is too difficult, and we change it. Similarly, if a video is being repeatedly left halfway after starting, we take appropriate action.