## Contents

1. What Does This Report Contain? .......................................................... 3

2. Overview of the Product ........................................................................ 3

3. Executive Summary ................................................................................ 4

4. Detailed Review .................................................................................... 7

    4.1 Content Quality ............................................................................. 8

    4.2 Pedagogical Alignment .................................................................. 11

    4.3 Technology and Design .................................................................. 17

Appendix .................................................................................................. 19
1. What Does This Report Contain?

The section, ‘Overview of the Product’, provides a brief description of the product and its key features to give the context for the evaluation. The two sections following that present the findings from the evaluation. The Executive Summary provides the overall rating and offers implications in terms of benefits and limitations for teachers and learners. The Detailed Review section provides an in-depth evaluation of the product, categorized under three dimensions (or constructs) – Content Quality, Pedagogical Alignment, and Technology & Design. For each dimension, the product is reviewed on the criteria along with explanations for the rating, and grouped into clusters. Specific examples have been provided in this report to support and elaborate on the evaluation ratings.

The terms, ‘Exemplary’, ‘Valuable’, and ‘Potential to Improve’, used in the report refer to the rating scale for evaluating the product.

- **'Exemplary'** indicates that the product has been designed as per recommended learning theories and research-based evidence.
- **'Valuable'** indicates limited adherence of the product’s design to the recommended learning theories and research-based evidence.
- **'Potential to Improve'** indicates unsatisfactory or lack of adherence of the product’s design to the learning theories and research-based evidence.

2. Overview of the Product

Tic Tac Learn is an online interactive audio-visual learning solution with its curriculum mapped to the CBSE board. The product contains short, animated, engaging videos and practice questions for each learning unit. Tic Tac Learn content is available for Math (Grades 1 to 10) and Science (Grades 3 to 10) and is free of cost. Teachers can use the content to supplement their teaching in the classroom or share specific videos or practice tests with students. Students can learn from the content in and outside the classroom, whereas parents can use it to help their children visualize concepts and address their learning gaps.
Overall, the content is aligned to the national standards and the pedagogy followed is aligned to the recommendations by the National Educational Policy (NEP) 2020. This product is highly beneficial for learning and applying concepts in Mathematics for Grades 6-8. The product qualifies as an effective supplementary tool for teachers to support learners in gaining a well-rounded understanding of the necessary concepts.

### Potential benefits of this product

- Supports development of all the math skills recommended by the NEP (2020) for middle school learners.
- Covers all the math concepts as per the NCERT Curriculum and these concepts are logically structured to aid meaningful learning.
- Product has the potential to develop higher-order thinking skills in learners.
- Mostly accurate content and assessment across learning units which are taught using language that is easily comprehensible by learners in the present age group.
- A conversational teaching style and a highly engaging presentation style with visual and verbal cues are used that can help learners focus on understanding the content.
- Content is presented using well-sequenced diverse examples in an increasing order of complexity, allowing learners to take on more difficult problems gradually.
- Appropriate and relevant real-life context is provided that can motivate learners to care about the topic.
- Adequate opportunities to practice the concept through practice quizzes are provided.

### Potential limitations of this product

- The product does not provide an inclusive representation of learners via the characters and the names used across learning units.
- Essential scaffolds such as hints in assessments, concept maps, and sufficient opportunities for learners to reflect and test their understanding are missing.
- Teachers are not provided with explicit support and guidance to use/customize the product for effective learning.
- The product does not support learners with special needs.
## Content Quality: Exemplary

### C1 Content accuracy
The content is accurate and contains correct facts, explanations, and examples.

### C2 Correctness and clarity in assessment
All the assessment questions and their solutions are factually correct and unambiguous.

### C3 Language comprehensibility
The sentences and vocabulary are easy to understand and the accent used is familiar.

### C4 Mathematics skill coverage
Skills recommended by the NEP such as understanding abstract concepts, moving from number sense to number patterns and seeing relationships between numbers, data handling and visualization, introduction to geometry, associating quantities and formulas with shapes are covered well in this grade range.

### C5 Curriculum alignment
The content is aligned to the NCERT Board/Curriculum and the learning units are logically sequenced.

### C6 Inclusivity in representation of learners
An attempt has been made to include representation of relevant sections of Indian society across gender and socio-economic class. However, more attention needs to be paid to religious and racial inclusivity, especially when choosing character names and looks.

## Pedagogical Alignment: Exemplary

### P1 Constructivist approach
Elements of the constructivist approach such as a well-sequenced set of diverse examples, problem-solving, and reflection spots are present. However, this is not consistent across all units.

### P2 Addressing learning gaps/ alternate conceptions
An exclusive video is dedicated to address some common misconceptions, errors in understanding, and potential learning gaps.

### P3 Content in context
Relevant and appropriate context is provided in the learning units wherever required.

### P4 Learner scaffolding
Explicit scaffolds in content such as worked examples are present. However, scaffolds in the assessments such as providing hints are missing.

### P5 Cognitive engagement
The content uses a conversational teaching style and is well supported by visual and verbal cues making learning highly engaging.
<table>
<thead>
<tr>
<th><strong>P7 Logical Chunking and Connectedness</strong></th>
<th>The components of the learning unit are short, easy to understand, and are structured to aid meaningful learning.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P8 Learning objective – assessment alignment</strong></td>
<td>All learning objectives have assessment questions aligned at corresponding cognitive levels.</td>
</tr>
<tr>
<td><strong>P9 Pedagogy – assessment method alignment</strong></td>
<td>The pedagogical strategies used in the product and the assessment methods used are aligned across all the topics. They are in line with the recommendations by the NEP, 2020.</td>
</tr>
<tr>
<td><strong>P10 Cognitive levels covered</strong></td>
<td>Higher-order thinking skills necessary for the topic are covered.</td>
</tr>
<tr>
<td><strong>P11 Feedback Quality</strong></td>
<td>Appropriate feedback is provided through complete explanations and visuals, although it lacks consistency across topics.</td>
</tr>
<tr>
<td><strong>P14 Teacher support</strong></td>
<td>No support or guidance is provided to enable the effective use of the product by teachers.</td>
</tr>
<tr>
<td><strong>P15 Facilitate goal setting</strong></td>
<td>The objective of the lesson at the start and the summary at the end of the lesson are clearly stated however, task value, utility, and attainment value are not present.</td>
</tr>
</tbody>
</table>

**Technology and Design: Valuable 😊**

<table>
<thead>
<tr>
<th><strong>T1 Interface design: Enable intuitive use</strong></th>
<th>The interface is intuitive, all elements are visible, and actions are mapped to their expected response.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T4 Universal Design – Content accessibility</strong></td>
<td>The product does not include features that ensure accessibility for diverse learners, such as learners with disabilities/special needs.</td>
</tr>
<tr>
<td><strong>T8 Content type – Technology alignment</strong></td>
<td>The visualizations present within every learning unit map to the content type. No distracting or unsuitable visualization is present.</td>
</tr>
</tbody>
</table>
4. Detailed Review

4.1 Content Quality 😐

Content Accuracy and Clarity ................................................................. 8
Alignment to National Standards ......................................................... 9
Inclusivity in Content Representation ............................................... 10

4.2 Pedagogical Alignment 😊

Learner-Centred Approach .................................................................. 11
Enhancing Learner Experience ............................................................. 12
Assessment of Learning ....................................................................... 15
Teacher Support ..................................................................................... 16

4.3 Technology & Design 😊

User Interface Design .......................................................................... 17
Technology for Meaningful Learning .................................................. 18
4.1 Content Quality

Content Quality measures the accuracy and content/skill coverage for the grade targeted and the specific domain. The criteria in this dimension focus on content accuracy and clarity, alignment to national standards, and inclusivity in content representations.

4.1.1 Content Accuracy and Clarity

**Content Accuracy (C1)** is rated Exemplary: The reviewers found that the content presented in the product was accurate, contained correct facts, explanations and examples. Additionally, the terminologies used, the definitions provided, and the step-by-step solutions to examples were accurate.

**Illustrative example: Topic: Exterior Angle of a Triangle and its Property, Grade 7**

In this example, the exterior angle property in a triangle is presented as a formula, text, and a diagram. All three forms of presentation are accurate.

**Correctness and clarity in assessment (C2)** is rated Exemplary: The assessment questions were presented as practice quizzes in every learning unit and their solutions were factually correct. The assessment questions were well-phrased, conveyed the intended meaning, and clearly stated what was expected from the learner. The solutions provided were complete and accurate.

**Illustrative example: Topic: Exterior Angle of a Triangle and its Property, Grade 7**

In this example, the question is clearly phrased and the supporting figure matches with the details provided, i.e., correct naming of the triangle and the angles. A step-by-step solution is provided which is clear, accurate, and unambiguous.
Language Comprehensibility (C3) is rated Exemplary: The content was easy to comprehend for learners in grades 6-8 since simple, short, and easy-to-understand sentences had been used. Furthermore, the vocabulary and accents used would be familiar for learners.

Illustrative example: Topic: Chance and Probability, Grade 7

In the above example, the term ‘event’ is defined using simple words. The accompanying visual also makes it easier for children to understand what an event means in the context of probability.

4.1.2 Alignment to National Standards

Mathematics Skill coverage (C4) and Curriculum alignment (C5) are rated Exemplary: Regarding Math skill coverage, all the necessary skills recommended by NEP 2020 and NCF for the upper primary stage (Grades 6-8) were included in the product. These skills include –

- Understanding of abstract concepts (e.g., Representation of Integers on a Number Line, Grade 6; Division of Integers, Grade 7; Finding Square Root of a Number, Grade 8),
- Introduction to algebraic notation (e.g., Algebraic Expressions, Grade 6; Addition and Subtraction of Algebraic Expressions, Grade 7; Multiplication of Algebraic Expressions, Grade 8),
- Moving from number sense to number patterns, seeing relationships between numbers and looking for patterns in the relationships (e.g., HCF and LCM, Grade 6; Percentages, Fractions and Decimals, Grade 7; Distributive Property of Rational Numbers; Grade 8),
- Data handling, representation and visualization skills (e.g., Bar Graph, Grade 6; Mean, median, mode, and range, Grade 7; Line graph, Grade 8),
- Introduction to geometry and observing geometrical properties (e.g., Classification of Triangles, Grade 6; Exterior Angle of a Triangle and its Properties, Grade 7; Angle Sum Property of a Quadrilateral, Grade 8)
With regards to Curriculum Alignment, the reviewers observed that the content in this grade range was mapped to the NCERT Board. Therefore, all the topics covered in the NCERT curriculum for this grade range were also covered in the product. The learning units were found to be sequenced logically to build conceptual understanding.

**Illustrative example: Understanding Elementary Shapes, Grade 6**

All topics covered in this chapter are logically sequenced that support meaningful learning. Additionally, the topics are found to be aligned to the Grade 6 NCERT Chapter 5.

**4.1.3 Inclusivity in Content Representation**

**Inclusivity in the representation of learners (C6)**

Inclusivity in the representation of learners (C6) is rated Valuable: Reviewers found that the product’s design attempted to include all sections of the society in terms of gender, race, religion, and socio-economic class. However, this representation of inclusivity was not consistently seen across all learning units. Reviewers concluded that the product needed to include more diverse character names, looks, skin colors, and settings for all learners to connect with the content being taught.

**Illustrative example: Grade 6**

**Topic: Prime Factorization**

In the example (left), the students who respond are named Ajay, Vijay, and Namrata. The teacher is dressed atypical to the Indian context. Five boys and two girls are shown and are predominantly with fair skin color. Racial and religious inclusivity is missing. In the example (right), children are non-Indian looking, fair-skinned, and names do not suggest religious diversity.

**Topic: Representation of integers on a number line.**
4.2 Pedagogical Alignment

*Pedagogical Alignment* includes criteria focused on adaptivity, learner-centred pedagogy, enhancing learner experience, assessment of learning, and teacher support. It measures the extent of alignment of the pedagogical strategies with national educational policies, Learning Sciences theories and design principles to create a meaningful learning experience.

4.2.1 Learner-Centred Approach

| Constructivist approach (P1) | Addressing learning gaps / alternate conceptions (P2) |

**Constructivist approach (P1) is rated Valuable:** This item evaluates if the product goes beyond the transmission of knowledge and allows for a meaningful construction of knowledge. In all of the content reviewed, the topics were presented through a very well-sequenced diverse set of examples which would enable learners to gain a comprehensive understanding of the concept. In many of the topics, learners were encouraged to pause, apply the concept, and solve a given problem. Following this, the solution was discussed in a step-by-step manner. In addition, there were reflection spots that would stimulate the learners to think, reflect, and revise their understanding. However, problem-solving and reflection spots were inconsistently present across the content reviewed. As a result, many of the topics appeared as a mere transmission of knowledge. Therefore, this item was rated valuable.

**Illustrative example:** Topic: Surface Area of a Cube, Grade 8

In the above example, learners are prompted to pause the video and solve the given question. This provides a chance for the learners to go through the steps of problem-solving to arrive at an answer using the formula to calculate the surface area of the given object.
Addressing learning gaps (P2) is rated Exemplary: In most of the topics, the final part of the learning unit was dedicated to addressing learning gaps or alternate conceptions of the topic. Diverse examples were taken up, most common mistakes were presented, and the corrections were provided clearly. This would help students avoid some common pitfalls in learning and help them gain adequate understanding of the topic.

Illustrative example: Topic: Point, Line Segment, Line and Ray, Grade 6

In this example, a common confusion between a line and ray is taken up using an appropriate example. It is highly likely that some learners would choose 8 as the right answer. The video clearly explains why 4 instead of 8 is the right answer by highlighting the essential differences between a line and a line segment.

4.2.2. Enhancing learner experience

<table>
<thead>
<tr>
<th>Content in context (P3)</th>
<th>Learner scaffolding (P4)</th>
<th>Cognitive Engagement (P5)</th>
<th>Logical Chunking &amp; connectedness (P7)</th>
<th>Facilitating Goal Setting (P15)</th>
</tr>
</thead>
</table>

Content in Context (P3) is rated Exemplary: Across the content that was reviewed, relevant and sufficient context has been provided wherever necessary in the introduction to the topic and in the examples used to build understanding. The context provided is relatable and can motivate the learner to care about the topic.

Illustrative example: Topic: Algebraic Expressions, Grade 6

In the above example, a box of toys is used to teach simple algebraic expressions. The number of toys in the box is assumed to be x. Then two toys are removed from it to arrive at the total toys in the box as x-2. Likewise, scenarios for all the four basic arithmetic operations are discussed.
Learner Scaffolding (P4) is rated Valuable: This criteria evaluates the presence of scaffolds/supports to help learners make progress in their understanding and application of the concept. In most of the content that was reviewed, scaffolds in the form of worked examples were provided. The examples progressed in complexity, allowing learners to take on more difficulty. Wherever appropriate, formulae showed up on the content screen to aid problem-solving. However, scaffolds such as concept maps/summaries and prerequisite/remedial content were unavailable. Additionally, scaffolds in the form of hints were found to be missing from assessments. Therefore, the design of the product for this criteria was rated as valuable.

Illustrative example: Topic: Prime Factorization, Grade 6

In the above screenshot, we can see an example of an explicit scaffold. The divisibility rules pop up on the screen to help learners solve the problem.

Cognitive Engagement (P5) is rated Exemplary: The product used a conversational style that was informal and invitational for the learners to engage with the content. For example, there were phrases such as “let us suppose,” “come let us see,” “let’s learn,” and “can you tell me,” which would make the learner part of the content and the learning journey. Furthermore, reviewers found consistent use of ample visual cues (e.g., circling, highlighting, optimal use of colors, bulleting) and verbal cues (e.g., use of words such as firstly, secondly, and finally) for drawing a learner’s attention on the content being taught.

Illustrative example: Topic: Multiplication of Algebraic Expressions, Grade 8

In the above example, the terms that are being multiplied are circled, also each of the product terms after multiplication are presented in a different color to aid understanding.
Logical chunking and connectedness (P7) is rated Exemplary: The content videos in the learning unit were adequately structured, leading to meaningful learning. The videos were presented in a logical order. They were short (<10 mins) and discussed a single concept. The assessment in the form of a practice quiz associated with the learning unit was present.

Illustrative example: Topic: Surface Area of a Cube, Grade 8

In the above example, we can clearly see that, for this specific learning unit, there are three associated content videos. The content in these videos progresses in a logical manner. The videos are short (between 4 to 6 mins) and there is an associated practice quiz checking mastery of the content taught.

Facilitating Goal Setting (P15) is rated Valuable: In all the content that was reviewed, the objective or the topic of every video was stated in the beginning. Also, at the end of every video, the topic and the related aspects that were discussed were stated in clear and simple language. However, the learning units did not indicate utility and attainment values. In other words, details about why a student should learn this topic and in what way learning this topic can benefit/help the students were missing. Additionally, short descriptions about each of the videos that could help teachers choose videos and guide their instruction were missing.

Illustrative example: Topic: Surface Area of a Cube, Grade 8

As presented in the above example, the objective and summary are explicitly stated at the beginning and the end of every video.
4.2.3 Assessment of Learning

<table>
<thead>
<tr>
<th>Learning objective – assessment alignment (P8)</th>
<th>Pedagogy-assessment method alignment (P9)</th>
<th>Coverage of cognitive levels (P10)</th>
<th>Feedback Quality (P11)</th>
</tr>
</thead>
</table>

Learning objective – assessment alignment (P8) is rated Exemplary: In all of the content reviewed, the assessment questions were found to be aligned to the stated learning objectives and the expected objectives as per the National Curriculum. Furthermore, the assessments were at the same cognitive levels as that of the content.

Pedagogy-assessment method alignment (P9) is rated Exemplary: For learners in the middle stage (grades 6 - 8), the National Educational Policy (NEP, 2020) recommends building on the pedagogical and curricular style of the preparatory stage which includes play, discovery and activity-based interactive learning. Additionally, the NEP recommends experiential learning and discussion of abstract concepts. In this context, reviewers found that the content and assessment of the product used scenario-based and real-life examples wherever appropriate. Discussion of abstract concepts such as squares and square roots and algebra was presented interactively and understandably. The pedagogical style also promoted experiential learning as learners were encouraged to pause the video and apply the concepts on their own.

Illustrative example: Topic: Percentage, Fractions, and Decimals, Grade 7

In the above snapshot, we can see an example of a scenario-based question to calculate the percentage. Scenario-based questions were also part of the content in this topic.

Cognitive levels covered (P10) is rated Exemplary: In most of the content and assessments reviewed, higher-order thinking skills were sufficiently addressed. Following the Blooms Taxonomy, learners were frequently prompted to recall, understand, apply, and occasionally prompted to analyze and evaluate while engaging with the content and assessments.
Illustrative example: Topic: Exterior angle of a triangle and its property, Grade 7

In the assessment question, learners are required to recall the basic exterior angle property and apply it in this new situation. For the application step to be fruitful, learners need to analyze the problem and identify ways to break it down and solve for angles \(p\) and \(q\). Additionally, learners are required to synthesize prior information about properties in parallel lines intersected by a transversal.

Feedback Quality (P11) is rated Valuable: This criteria evaluated the quality of feedback provided in the assessment questions in every learning unit. In all the learning units reviewed, in addition to seeing their scores, learners could also review the question they got wrong and detailed solutions were provided for every assessment question. However, the feedback was not constructive in the sense that, it failed to make learners aware of what they could do to correct their understanding of the concept. For instance, based on the questions that were answered incorrectly, learners could have been prompted to review specific aspects of the content.

Illustrative example: Topic: Percentages, Fractions and Decimals, Grade 7

In this example, the solution for the problem is provided clearly however, no other forms of constructive feedback are present.

4.2.4. Teacher Support

Teacher Support (P14) is rated Potential to Improve: For optimal and meaningful learning to occur, it is important to provide support and guidance for teachers on how to use the product and how to effectively integrate the learning unit within the framework of the teaching-learning processes. There were no features to support and guide the teachers in the product, which could lead to the product being used for mere show and tell content in classrooms.
4.3 Technology and Design

Technology & Design measures how well the technological affordances and the user interface design integrate with the pedagogy and context to promote a meaningful learning experience for all learners. The criteria in this dimension focus on user interface design and affordances that facilitate learning.

4.3.1. User Interface Design

| Interface design: Enable intuitive use (T1) | Universal design – Content accessibility (T4) |

**Interface design: Enable intuitive use (T1) is rated Exemplary:** The user interface adheres to design principles that facilitate the learning process. All visual elements and functions were clearly visibly and logically placed together that would guide learners’ use of the website. There were appropriate visual cues such as outlines around a box, drop downs to help learners navigate through the interface. The visual elements were mapped well to their function. The interface design was consistent across all learning units and assessment questions.

**Illustrative example:** Topic: Multiplication of Algebraic Expressions, Grade 8

In the user interface (as shown in the example), visual elements for the selection of content are placed on the left side with a drop-down and buttons clearly visible. Upon selecting the right combination of grade, subject, and topic, the right side of the pane refreshes with the relevant learning units. Learners can choose to play them all by clicking on the playlist or as separate videos. Alternatively, learners can also choose to click on the practice quiz. The three options are visually clear and intuitive.
Universal Design – Content accessibility (T4) is rated Potential to Improve: This criteria is present to assess if Web Content Accessibility Guidelines (WCAG) principles have been followed, such as providing text support for audio-only content, audio support for text, and captions for audio-video content. By following the recommended guidelines, designers can provide content accessible to diverse learners with varying abilities and special needs. In this context, reviewers found that this product lacked features that would ensure accessibility for diverse learners.

Illustrative example: Topic: Line Graph, Grade 8

The above picture is a snapshot from one of the learning units. Without the audio support, it is hard to understand what question is being asked here. This is true for all learning units in the product. There are no subtitles or transcripts, which, for instance, makes the content unavailable for learners with hearing impairments.

4.3.2. Technology for meaningful learning

Content type – Technology alignment (T8)

Content type - Technology Alignment (T8) is rated Exemplary. In relevant learning units, appropriate visualizations such as diagrams had been provided to supplement and support learning. The visualizations were also appropriately mapped to the content type and were not distracting.

Illustrative example: Topic: Construction of a triangle based on SAS criterion, Grade 7

In this example, the visualization supplement the content. Each step of the construction that is shown in the text format is also supported visually. This allows learners to follow along and gain a good grasp of the content.
Appendix

How does the EdTech Tulna evaluation work?

FRAMEWORKS

EdTech Tulna frameworks define a set of standards for quality design of EdTech products. A rigorous and research backed process is established and applied for the creation of various nuanced frameworks. These frameworks are use-case specific to enable transparent and precise, high stakes decision making. The process includes considering existing research literature, feedback from the ground on multiple stakeholder needs and an appreciation for the quality of solutions currently supplied in the ecosystem.

The frameworks are categorized along the three dimensions of Content Quality, Pedagogical Alignment, and Technology & Design to capture a holistic view of the quality of the product design. The frameworks are also made available at varying levels of depth for varying stakeholder needs and range from supporting governments and institutions in making high stakes, rank based, adoption decisions, to providing a brief overview of the key criteria to be considered while designing a product.

TOOLS

Each Tulna framework is accompanied by a toolkit that is specifically designed to guide experts to evaluate EdTech products. These toolkits are customized to the type of EdTech solution, grades, subjects, to drive meaningful and nuanced evaluations. The tools are informed by research as well as iterative empirical study and tested for inter-rater reliability and validity. A typical toolkit consists of rubrics and reviewer guidelines to enable evaluators to interpret the framework and conduct unbiased evaluations. Each criterion within the framework is rated along a three-point rating scale - ‘Exemplary’, ‘Valuable’, and ‘Potential to Improve’ - indicating the level of alignment with expectations laid out in the framework. Toolkits include supporting materials - videos, templates, and example illustrations - to guide experts while conducting evaluations.

PROCESS

Each product goes through a rigorous review process that takes approximately 160 hours for four grade ranges K-2, 3-5, 6-8, and 9-10. Each review team is designed to be independent and neutral. A typical expert review team consists of 3-4 members who are subject matter experts, instructional designers, user-interaction experts, user-experience design experts, and professionals with experience in teaching and implementing EdTech in field settings. Each review team has an anchor of at least one experienced evaluator.

Each member of the expert review team undertakes a two-week long intensive training on understanding the frameworks and the subsequent application of its toolkits to conduct evaluations. For each product, the review team applies a systematic sampling strategy and decides the representative learning units that will be reviewed. The team collectively reviews a subset of the learning units to check for convergence and establish inter-rater reliability. Team members then individually review the remaining learning units. The team finally meets to synthesize key points and takeaways of each review and elaborates their reviews into an in-depth report, which is overseen by the experienced evaluator.

The role of the product company is limited to an initial demo which supports the review team to deepen their appreciation of the intended use of the product, and its scope. The product company is then provided the final reviews and their unedited responses are published alongside the expert evaluations on the Tulna evaluation center.