



LUMIAR STOWFORD: PUPIL ASSESSMENT PROCEDURES

INTEGRATED ASSESSMENT: THE DIGITAL MOSAIC

At Lumiar Stowford, Group Projects, Skills Modules, Workshops and Individual Projects are all assessed by Tutors and Masters through the Digital Mosaic. It tracks progress across a broad range of categories, including academic, social/emotional, physical, critical thinking, creativity and communication in line with the Contents and Competences Matrices. Learners engage with the tool to reflect on their performance and set their own learning targets, with the support of their Tutor.

Through the Innovative Schools Programme, Microsoft's Partners in Learning initiative worked over ten years with governments, educators (such as Howard Gardner and his theory of Multiple Intelligences) and partners (such as the Building Schools for the Future programme in the UK, the School of the Future Project in Philadelphia, Singapore's BackPack.Net Technology programme and Taipei's ZhongLun High School), to create the Digital Mosaic.

- To create an assessment tool that maximises student achievement and is transferable to all types of learning environment, anywhere in the world;
- To generate educational practices that involve members of the community, inducing in them a passion and responsibility for their own learning and a commitment to active citizenship;
- To find ground-breaking solutions to the many problems of how to integrate technology to support community collaboration and the creation, dissemination and assessment of curriculum content;
- To encourage economic and community development through education;
- To share organisational resources, with the intention of helping transform how organisational best practices and resources are applied in the teaching and learning process;
- To embed best practice into schools throughout the world to improve student achievement and create lifelong learners;
- To offer access to experts in the areas of data integration and management, collaboration and communication, streaming media, organisational efficiency, and leadership development.

Through the Digital Mosaic, evidence is collected that allows us to create a comprehensive portfolio for each learner and model their development across a

range of competencies. We value the active participation of the learner through reflection on their own performance.

Integration is accomplished through the following structures:

- The Digital Mosaic: an online tool to integrate curriculum, methodology and evaluation;
- An active, Project-based curriculum based on competencies and Skills, focused on capacity building, problem-solving and competency development;
- Evaluation of these competencies based on constant observation of student progress.

The Digital Mosaic is underpinned by the Contents, and Skills and Competencies matrices (found in Curriculum Plans section of this application).

In the example, below, the Mosaic is seen. The dark coloured sections denote which areas of the curriculum are being covered by each Project. Over months and years, the coloured sections evidence achievement in specific Contents, and in the Skills and Competencies. Each child will also have their own personal Mosaic, which documents their own progress. In each Skills or Contents area the progression of Skills and understanding over time is documented, evidenced by observational assessment and photographic/multimedia items. This highlights growing understanding over time – the spiral curriculum – as key concepts are revisited repeatedly, in differing contexts.

Group mosaic

F1 group has completed 89% of this project's curriculum.



The Digital Mosaic guides the Tutor and Master through the set up of each new Project, Module or Workshop. First, the Skills and Competencies are identified:

Lumiar Projects Edit profile Logout

Applying project

1 GENERAL 2 SKILLS 3 CONTENT

Choose 4 skills at maximum:

- ✓ Sensory-Motor axis
- ✓ Socio-Emocional axis
- ✓ Formal-logical axis
- ✓ Instrumental axis
- ✓ Epistemic axis

Previous Next

Lumiar Projects Edit profile Logout

Applying project

1 GENERAL 2 SKILLS 3 CONTENT

Choose 4 skills at maximum:

- ✓ Sensory-Motor axis
- ✓ Socio-Emocional axis
 - ✓ Self awareness
 - ✓ Self management
 - ✓ Interpersonal relationship
 - ✓ Expressivity
 - ✓ Emotional expression
 - ✓ Artistic expression
 - ☒ Expressing emotions and feelings
 - ☐ Expressing wishes and desires
- ✓ Attitudes and Values
- ✓ Formal-logical axis
- ✓ Instrumental axis
- ✓ Epistemic axis

Previous Next

Next, the Contents are selected:

The screenshot shows the 'Lumiar' application interface. At the top, there is a dark header with the 'Lumiar' logo on the left and links for 'Projects', 'Edit profile', and 'Logout' on the right. Below the header is a blue bar with the text 'Applying project'. The main content area has a light gray background and features three tabs: '1 GENERAL', '2 SKILLS', and '3 CONTENT'. The '3 CONTENT' tab is active and highlighted with an orange underline. Below the tabs is a white box titled 'Choose the content:'. Inside this box, there is a tree structure of subjects. 'Maths' is expanded, showing 'Geometry' and 'Measures'. 'Geometry' is further expanded, showing 'Spatial relations' and '2d shapes'. Under '2d shapes', 'Volume' is selected with a blue checkmark, and 'Laterality' is unselected with an empty checkbox. Below the 'Measures' section, there are links for 'Sciences', 'Technology', 'Human sciences', and 'Arts'. At the bottom of the white box are two buttons: 'Previous' (gray) and 'Next' (blue).

Students and parents will have access to their digital learning journals on the Digital Mosaic platform, in which they are encouraged to reflect on their achievements at home as well as at school, bringing in books, ideas, special items or experiences to share and provoke new Projects.

Those involved in the learning process in the school (Tutors, Master and children) employ the Digital Mosaic for planning purposes. The challenge here is to transform digital technology into an effective learning tool - to develop the technological infrastructure that will integrate the pedagogical vision of the school. This infrastructure fully integrates Microsoft's interactive technologies and tools for use by the students: e-mail, instant messaging, group chat, discussion groups, personal spaces (information sharing).

LEARNING PORTFOLIOS

For each student, the Digital Mosaic provides a Learning Portfolio, evidencing progressing through the Cycle. The Mosaic documents:

- An initial evaluation of their competencies and Skills as they arrive in the school and begin each school year;
- The Projects they have been involved in;

- Whether, and how well, they developed the competencies and Skills that were linked and connected with each Project in which they were involved;
- For students in higher grades, information on their life Projects and the competencies and Skills that life Project requires.

The 'Learning Portfolio' also monitors the progress of the students in the acquisition of what could be called the 'traditional curricular content' that is needed for the development of their learning Projects: knowledge of their own language, of mathematics, of science, of the social fabric in which a Project is being developed etc.

HOW ASSESSMENTS ARE COMPLETED

At Lumiar the role of the educator involves collaboration between Tutors and Masters:

- Tutors are with the children every day and provide social and emotional support, helping them with their learning and ensuring that they achieve their age-appropriate competencies;
- Masters are people with a passion for their subject and are invited in to deliver specialist content through Projects.

Tutors, Masters and other educational staff will be trained in using Assessment for Learning techniques.

ASSESSMENT BY TUTORS

The first of the two pedagogical professionals is charged with the following assessment tasks evaluation:

- Carrying out the initial baseline assessment of the student, recording in the Student Learning Portfolio what the student already knows on entry to the school;
- Accompanying students at all times, welcome them when they arrive each day, being the first point of contact as and when problems arise, periodically discussing Project activities, and delivering them back to parents/carers at the end of the school day;
- Formally evaluating the student every two months on the basis of observations, discussions and performance in their various Projects.

ASSESSMENT BY MASTERS

The Masters ensure that the students complete all the activities that they have committed themselves to.

They also ensure that students also learn what they need to so that they develop the Skills and competencies defined at the start of the Project.

The result of these evaluations go into the Student Learning Portfolio to be incorporated into the formal evaluation that takes place every two months.

SELF ASSESSMENT BY THE CHILDREN

The children are provided with an enabling environment and stimulating opportunities in order to develop reflection, autonomy and independence in their learning. As part of this continuous practice, children self assess their progress in each Project. They write a reflection on their experience of the Project, what they learned, challenges and achievements. They also rate their progress in each Project, using a four-finger scale, communicated by an icon of a hand with four fingers.

- 1 Finger – unable to complete the task this time
- 2 Fingers – able to complete the task with support from an adult
- 3 Fingers – able to complete the task independently
- 4 Fingers – able to teach another child the Skills for the task

The Tutor and Masters also complete this rating scale on the Digital Mosaic, for each child, providing valuable moments for discussion between individual children and adults. The spiral curriculum enables children to return to key Skills time after time, building confidence and resilience, highlighting a growth mindset approach which sees 'failure' as a skill 'I have not Mastered...yet'. The four-finger scale enables a triangulation between the child, Tutor and Master, highlighting clear progress and achievement over time.

OPPORTUNITIES FOR ASSESSMENT

The Project

Projects arise from an investigatory situation, a problem or question which the students must resolve with autonomy and with the educators' support. In order to create a Project in the Lumiar Model, the Tutor follows the stages:

1. Survey of interests and identification of the group's needs:

1a. The Tutor must know the group's interests in order to develop a Project which contemplates both interests and needs. This survey may be conducted by means of: a group Circle, daily observations, world reading, or direct approach. The record can be found in the Digital Mosaic under the Survey of Interests records.

1b. By utilizing the individual and the group development map, the Tutors must keep in mind which Skills and Contents need to be worked on throughout the term. The development map (consisting of the Competences and Skills matrix and the Contents matrix) can be viewed individually or as a group. According to the evaluation or display of each of the items from both maps, the Tutor may visualize whatever has not yet been covered by past activities.

2. Theme and content selection:

2a. These two aspects are profoundly linked together seeing that one must necessarily converse with the other. Once the Tutors have embraced the students' pedagogical needs and have become aware of their interests, they bring a suggestion for a Project, and after discussing with the students, together they choose the subject to be explored. During the discussion, the Tutor needs to evaluate which Contents deserve special attention at that moment and could be covered by the themes being considered. New possibilities for subjects should be presented to the students, highlighting that the Tutor or the school also has a role of selecting, planning, and providing an environment in which students could learn what needs to be learned.

2b. Development axes in the selection of a Project: special attention needs to be given to the equal distribution of both the five development axes and the curricular components. Skills and Contents are selected as the Project is assembled in the Digital Mosaic.

3. Selection of the Master:

Subsequent to familiarizing him/herself with the Competences, Skills, and Contents that need to be worked on and to choosing the Project's theme with the group of students, the Tutor must search for and select a Master whose professional and/or academic expertise is/are relevant to the development of the Project.

4. Planning:

Following the selection of a Master who is proficient in the chosen subject, Tutor and Master will meet to create and organize a basic proposal for the Project in the Digital Mosaic. The proposal will then be presented to the students and should allow for some flexibility in this initial stage since it might be adapted in response to a recognition of better learning conditions, prior knowledge, and new ideas that may subsequently be presented by the students.

5. Presentation of the Project to the students and dialogue:

The presentation time should consist of adjustments, and not of a complete elaboration of the plans for the Project with the students. It must take into consideration the ideas that are to be incorporated into the Project and that are aligned with the group's interests.

6. Definition of the final product:

After the adjustments regarding the proposal, the subject to be studied, which content areas will be integrated, and which questions will be answered, the group must arrive at an agreement as to which final product will best materialize and represent the investigation. The intentions for the Project must be clear so that the students will be able to coherently determine the product to be built. The importance of this stage lies in the fact that the final product is often the Project's main motivation. At this point, where appropriate, the physical destination of the final Project must also be agreed upon: is it to remain as a property of the school or of the community? Is it to be shared among the students? Is it to be given away to someone through a raffle or by the group's decision?

7. Organization of the steps of the Project:

This is one of the most important stages of the process. Organizing the steps of the Project means planning and clarifying from the start what the path to be followed will be; the how-to's are to be carefully discussed, delineated, and answered together with the group at this point.

Prior to starting any type of discussion, the following must be considered:

7a. Organization: assessment of the time available, Skills and Contents mobilization, the activities to be carried out during the sessions, and means of evaluation. This must be done in the Digital Mosaic.

7b. Materials required: in planning for the sessions, the educator must consider which materials will be provided by the school and which will be brought by the students; also, the availability of materials and the likely costs of the Project should be checked. The required materials should be registered on the platform as each session is planned.

7c. Means of evaluation: What is the criteria for evaluating the Project? It is important to specify this from the beginning. Evaluation is carried out by Tutors, Masters, and students throughout the execution of the activities in an informal manner (e.g., orally) or recorded in the Digital Mosaic, under the educator's logbook. The logbook is also filled out at each session as a record tool for the students.

8. Project in action:

8a. The first session: this is always a time for reception of the students and for mutual listening and discussions on how the Project is to be accomplished. On the first session, the previously elaborated theme and proposal are presented, clearly reminding the students that the Project has been planned out based on their interests – previously mapped by the Tutor – so that they are made aware of how carefully and adequately the proposal has been thought out to fit their reality and interests. Once the proposal is understood, the students must share their opinions about the Project in order to make modifications and arrive at necessary agreements. Such adjustments must be recorded in the Digital Mosaic by the Tutor.

8b. Record of the sessions: the Project experiences must be recorded in the Digital Mosaic by means of reports in the logbook. Some attention and willingness to possible adjustments or corrections are needed as the Project develops. Photographic records which illustrate the collective development of the activities could be added to the reports; it is also possible to upload individual evidences of progress.

8c. Group and workspace organization: during the sessions of this modality, students are usually organized as a large group, with the goal of prioritizing collective work. Smaller groups could also be prescribed, especially when starting the study of secondary subjects related to the main topic of investigation and when distributing activities to students committed to performing similar tasks or developing the same Skills. Whenever high concentration or individual dedication is needed, students may work alone, in separate desks, without any problems. The Project can be developed in the classroom, outdoors, in the library, or in any space that might foster learning and developmental opportunities.

8d. The Project sessions should contemplate, as mentioned in the beginning of this chapter, individual and collective researches, organization of the collected data, visits to places outside school grounds, hosting and interviewing experts in the field that is being studied, among other experiences.

9. Conclusion and reflection:

The conclusion of the Project is a time for reflection, for raising awareness, and for reviewing the process. It could be accompanied by different types of evaluation and record. This must always be backed by a presentation of the final product. Depending on the type of product or the group's willingness, this presentation could be limited to the group of students itself or comprehend all the school community. Still in some cases, the presentation transcends the school environment and could be exhibited to the local community at neighbourhood venues or at municipal centers, not forgetting the family, who are important partners in the process of socialization and potential supporters of the students' achievements. Both the type of conclusion and the means of final evaluation must have been planned at the beginning of the Project, since only by using the previously established criteria it is possible to evaluate whether or not the goals were reached and how they were achieved.

10. Evaluation/ Assessment:

When working on Projects, the individual child's progress is assessed qualitatively, and documented in the Digital Mosaic. The process, rather than the end product hold the most valuable learning. Thus, the final product is a consequence, and not a goal in itself. The evaluations are recorded both in the individual and in the collective scope. They are conducted in the Master's logbook; student's account about the Project; student's self-evaluation; Tutor's report about each student; Tutor's evaluation on each student's Skills on the Digital Mosaic; Tutor's evaluation on each student's Contents on the Digital Mosaic.

The Workshop

The guiding principle for the workshop sessions is the development of a competency (and a set of Skills, respectively) which is relevant to students' interests and needs. In the Lumiar Methodology, when creating a workshop, the Tutor is encouraged to organize its planning and execution conforming to the following guidelines:

1. Survey of interests and identification of the group's needs:

1a. The Tutor must know the group's interests and developmental needs in order to organize a workshop which contemplates both aspects. This survey may be conducted by means of: a group Circle, daily observations, world reading, or direct approach. The record can be found in the Digital Mosaic under the Survey of Interests records.

1b. By utilizing the individual and the group development map, the Tutors must keep in mind which **Skills** need to be enhanced throughout the term. The development map (consisting of the Competences and Skills matrix and the Contents matrix) can be viewed individually or as a group. According to the evaluation or display of each of the items from both maps, the Tutor may visualize whatever has not yet been covered by past activities. In order to ensure a better use of the workshop, a selection of complementary Skills is recommended. These Skills should not be too distant from one another, so that students may seek greater proficiency instead of the development of a diverse range of Skills, which would cause them not to thoroughly deepen their knowledge in any of the Skills.

2. Selection of the theme (and selection of Contents):

2a. Once the Tutors have embraced the students' pedagogical needs and have become aware of their interests, they bring a suggestion for a Workshop, and after discussing with the students, together they choose the subject to be explored. During the discussion, the Tutor needs to evaluate which Skills deserve special attention at that moment and could be covered by the themes being considered. The Contents emerge, but not in a transdisciplinary manner as is the case with Projects. It is important to emphasize that the main focus of the Workshop is the development of Skills.

2b. Development axes in the selection of a Workshop: special attention needs to be given to the equal distribution of both the five development axes (emotional, epistemic, instrumental, formal-logic, and sensory-motor) and the curricular components. Skills and Contents are selected as the Workshop is assembled in the Digital Mosaic.

2c. Adaptations on the Lumiar Model: some institutions might not have in their timetable the availability for sessions to discuss the choice of themes and Contents with Tutors prior to the hiring of a Master or to the beginning of the sessions for the Projects themselves. In such cases, the survey of interests, the selection of the theme, the selection of Contents, and the selection of the Master will happen before the Workshop's first session. Thus, this first stage will be used for adjustments of the proposal in response to the conversation with the students and to the sensitization about the theme.

3. Selection of the Master (when necessary):

Subsequent to familiarizing him/herself with the Competences and Skills that need to be worked on and to choosing the theme with the group of students, the Tutor must search for

and select a Master whose professional and/or academic expertise is/are relevant to the development of the Workshop. The Masters may be selected from the Masters Bank.

4. Planning:

Following the selection of a Master who is proficient in the range of Skills to be developed, Tutor and Master will meet to create and organize a basic proposal for the Workshop, aided by the Digital Mosaic. The proposal will then be presented to the students and should allow for some flexibility in this initial stage since it might be adapted in response to a recognition of better learning conditions, prior knowledge, and new ideas that may subsequently be presented by the students.

5. The Project in action:

5a. The first session: this is always a time for reception of the students and for mutual listening and discussions on how the workshop is to be carried out. On the first session, the previously elaborated theme and proposal are presented, clearly reminding the students that the workshop has been planned out based on their interests and the Skills that needed to be improved, so that they are made aware of how carefully and adequately the proposal has been thought out to fit their reality and interests. Once the proposal is understood, the students must share their opinions about the workshop in order to make necessary modifications at that point. Such adjustments must be recorded in the Digital Mosaic by the Tutor.

5b. Record of the sessions: the sessions must be recorded in the Digital Mosaic by means of reports in the logbook. Photographic records which illustrate the collective development of the activities could be added to the reports; it is also possible to upload individual evidences of progress.

5c. Group and workspace organization: during the sessions of this modality, students could be organized as a large group whenever there is an intention of prioritizing collective work, but also as smaller groups for a practical learning experience, according to the objectives raised and the type of topics to be covered. Whenever high concentration or individual dedication is needed, students may work alone, in separate desks, without any problems. The Workshop can be developed in the classroom, outdoors, in the library, or in any space that might foster learning and developmental opportunities. It is important to dedicate enough mobility room to allow students to work freely and to enable shared resources to be well organized. Moreover, a wise distribution of time would keep sessions from being too short, for instance, leaving just enough time to implement then to gather back the materials required for the workshop.

6. Conclusion and reflection:

The conclusion of the workshop is a time for reflection, for raising awareness, and for reviewing the process. It could be accompanied by different types of evaluation and record. Both the type of conclusion and the means of final evaluation must have been planned at the beginning of the workshop, since only by using the previously established criteria it is possible to evaluate whether or not the Skills were achieved. Unlike the Project, there is no need for a reflection on the accomplishments illustrated by a final product. However, partial products could comfortably assume the role of reminders of the process, as well as of promoters of reflection about the development of the Skills by each of the apprentices. In

case it is appropriate to the proposal or of the group of apprentices' interest, an event could be organized for students to share with the rest of the school community about the activities or partial products accomplished throughout the modality (e.g., a small exhibit of sketches made during a workshop covering model development).

7. Evaluation:

The students' development and learning evaluation is done by means of observation and evaluative activity to mainly analyse the eagerness in developing the Skills. The Workshop provides moments of meaningful learning, allowing students to manipulate their own growth and knowledge. Thus, the evaluation of Skills's goal is to identify and discuss evidence of the students' progress. The evaluations are recorded both in the individual and in the collective scope. They are conducted in the following modalities: Master's logbook; student's account of the workshop session; Master's final account of the workshop; student's self-evaluation; and workshop instructor's evaluation of Skills developed by each student, on the Digital Mosaic.

The Module

The module focuses on the development of Contents which are relevant to the group and, mainly, should support a current Project (for example, the necessary mathematic or linguistic understanding or knowledge). The relevance could be determined by the need to assimilate something fundamental to develop Skills and/or to learn Contents requiring prerequisites, and by the benefit offered by learning Contents in a more linear and systematic manner. In the Lumiar Methodology, when creating a module, the Tutor is encouraged to organize its planning and execution conforming to the following guidelines:

1. Survey of interests and identification of the group's needs:

1a. The Tutor must know the group's interests and developmental needs in order to set up a module which contemplates both aspects. This survey may be conducted by means of: a group Circle, daily observations, world reading, or direct approach. The record can be found in the Digital Mosaic under the Survey of Interests records.

1b. By utilizing the individual and the group development map, the Tutors must keep in mind which Contents need to be worked on throughout the term. The development map (consisting of the Competences and Skills matrix and the Contents matrix) can be viewed individually or as a group. According to the evaluation or display of each of the items from both maps, the Tutor may visualize whatever has not yet been covered by past activities.

2. Theme and Contents selection:

2a. Once the Tutors have embraced the students' needs and have become aware of their interests, they prepare a presentation of the chosen Module and contextualize it for the students. Prior to that, however, the following aspects need to be given some consideration:

Content group and five development axes in the selection of the Module: special attention needs to be given to the equal distribution of both the groups of Contents (among the curricular components) and the five groups of the Competences (emotional, epistemic, instrumental, formal-logic, and sensory-motor). Skills and Contents are selected as the proposal is assembled in the Digital Mosaic.

2b. The focus of the Module needs to be chosen in discussion with group, responding to the group's need, and linked to their development map. The survey is in itself an initial learning event, so it needs to be thoroughly planned.

2c. Adaptations on the Lumiar Model: some institutions might not have in their timetable the availability for sessions to discuss the choice of themes and Contents with Tutors prior to the hiring of a Master or to the beginning of the sessions for the Projects themselves. In such cases, the survey of interests, the selection of the theme, the selection of Contents, and the selection of the Master will happen before the Module's first session. Thus, this first stage will be used for adjustments of the proposal in response to the conversation with the students and to the sensitization about the theme.

3. Selection of the Master (when necessary):

Subsequent to familiarizing him/herself with the Contents that need to be worked on and to choosing the theme or to detecting the need of deepening a topic with the group of

students, the Tutor must search for and select a Master whose professional and/or academic expertise is/are relevant to the development of the Module. The Masters may be selected from the Masters Bank.

4. Planning:

Following the selection of a Master who is proficient in teaching and in elaborating activities based on certain Contents and fields of knowledge, Tutor and Master will meet to create and organize a basic proposal for the Module, aided by the Digital Mosaic. The proposal will then be presented to the students and should allow for some flexibility in this initial stage since it might be adapted in response to a recognition of better learning conditions, prior knowledge, amount of interest, and new ideas that may subsequently be presented by the students. During planning, it is important to organize the sessions in such a way to ensure a continuity of challenges and a diversity of activities.

5. The Module in action:

5a. The first session: this is always a time for reception of the students and for mutual listening and discussions on how the module is to be carried out. On the first session, the previously elaborated theme and proposal are presented, clearly reminding the students that the module has been planned out based on the Contents and knowledge of certain topics that needed to be improved, so that they made aware of how carefully and adequately the proposal has been thought out to fit their reality and interests. Once the proposal is understood, the students must share their opinions about the module in order to make necessary modifications at that point. Such adjustments must be recorded in the Digital Mosaic by the Tutor.

5b. Record of the sessions: the sessions must be recorded in the Digital Mosaic by means of reports in the logbook. Photographic records which illustrate the collective development of the activities could be added to the reports; it is also possible to upload individual evidences of progress.

5c. Group and workspace organization: this series of learning activities and continuously interlocked evaluations must conform to the objectives the educator wishes to reach with that specific group. To this end, the educator needs to clearly understand which type of knowledge must be explored and to elaborate a series of activities and exercises that can be performed as a group, in pairs, or individually. When working in a group, the student puts into practice a series of behaviors and procedures which might become useful when working alone. When working in pairs, the aim is to prompt a more focused activity in which students confront their hypotheses and knowledge with their partners'. And when working alone, the student are able to test the knowledge that has been built throughout the process.

6. Conclusion and reflection:

The conclusion of the module is a time for reflection, for raising awareness, and for reviewing the process. It could be accompanied by different types of evaluation and record. Both the type of conclusion and the means of final evaluation must have been planned at the beginning of the module, since only by using the previously established criteria it is possible to evaluate whether or not the Contents were learned. Unlike the Project, there is no need for a reflection on the accomplishments illustrated by a final product since there is no physical product. However, the activities performed could contribute as reminders of the

process, as well as promoters of reflection about the development and comprehension of the content by each student. Particular to the module is the application of didactic sequences and the discussion about certain Contents. Therefore, it does not normally allow for a Projection of socialization of the developed or improved knowledge.

7. Evaluation:

The evaluation could be done in various ways. It is essential to take into consideration that the ultimate goal of the didactic sequence is to make students advance from a minor to a major state of knowledge of the subject taught in the module. This can be measured based on records kept by the students, activities, exercises, and evaluations. The evaluations are recorded in the individual scope. They are conducted in the following modalities: Master's logbook; student's account of the module; Master's final account of the module's progression as a whole; student's self-evaluation; and module instructor's evaluation of Contents learned by each student, on the Digital Mosaic.

Comparative Table: Workshops, Modules, and Projects

Elements under consideration	Workshop	Module	Project
Teaching-learning model	By proficiency > systematic development of specific Skills.	By discovery > exploration of themes and Contents within a specific field of knowledge.	Investigative > students assign meaning to what is being built and learned.
Curricular model	Skills > focus on the development of a competency that represents a range of Skills.	Curricular > focus on a specific field of knowledge.	Transdisciplinary > beyond curricular boundaries, integrating several fields of knowledge. Any topic can be addressed.
Selection of what will be developed	By identification of Skills that require perfecting/development. By group discussion > the majority of the group can choose the Skills to be developed.	By group's learning need > needs are presented based on the group's learning expectations and/or to make a specific Project viable.	Argumentative > students must discuss the relevance of what they wish to uncover. It needs to be something useful and important for the group.
Educator's role	Expert in a trade.	Expert in a field of knowledge.	Mediator and co-participant.
Student's role	Executor > an apprentice who develops Skills.	Builder of own knowledge > guided by the proposed presentations and activities to work on the content at hand.	Co-participant > actively engaged in planning the proposal, the search and organization of data, the debates, and the execution of the final product, mediated by the educator.

Elements under consideration	Workshop	Module	Project
Product	Contingent and pre-determined > residual result of the performed activities.	Acquisition of knowledge > the execution of linked activities in didactic sequences are the module's product	Resolution of the proposed problem > it is necessary but unknown at first. Usually implies the construction of a tangible product.
Treatment of knowledge	The specialist creates a model and discloses the techniques.	The educator presents the information.	The educator searches along with the students – to collect and handle information, then interpret them.
Work procedures	Reproduction of the proposed model > the specialist presents the model, solves the impasses, and anticipates the tools and procedures.	Didactic sequences > primarily created by identifying the learning need of a content or a range of Contents stemming from another organizational modality; but also from a theme agreed upon by the group.	There are no preset tools or procedures > they must adjust to the proposed problem. Impasses must be collectively negotiated in order to redirect the course.

Research or Individual Project

The Research or Individual Project has as its objective to promote individual time so that students may produce, build, and seek knowledge autonomously in an individualized process that does not entail a collective construction – as is the case with Modules, Workshops, and Projects. In the Lumiar Model, when prompting a research, the Tutor is encouraged to organize its planning and execution conforming to the following guidelines:

1. Selection of theme/problem:

In order to stimulate commitment, the chosen subject must be of the student's own interest or even involve a competency which the student already Masters to some extent, resulting in even more enthusiasm with regard to the proposed work. For instance, the student may research about the subject of "marine animals"; the adviser must keep in mind that this is but a large clipping to be refined throughout the research process towards more specific objects, such as "marine invertebrates". More experienced students should not only choose a theme and an object of research, but also define a problem. For example, if the student chooses the subject of "marine animals" and wishes to research about "marine invertebrates", he/she must define a problem based on his/her question, such as, "what are the similarities between human intelligence and the intelligence of octopuses?" It should be noted from this example that, in order to formulate such a problem, the student must have done a preliminary research about the most intelligent living marine invertebrate.

2. Formulation of ideas:

After having selected the theme, object and/or problem, the student should be encouraged to formulate hypotheses. When elaborated by elementary and middle school students, the hypotheses should be more structured and based on researches and data previously collected by the students about the subject.

3. Survey of sources for data collection:

Sources could be primary or secondary. Primary sources are those whose knowledge has not yet been intermediated and, therefore, require direct collection by the student. Methods and techniques such as field surveys, observations of participants, interviews, questionnaires, and situational film records are at the student's disposal for direct data collection. On the other hand, data collection from secondary sources (such as books, image representations, data banks, and documentaries) must always be accompanied by critical reflection regarding its partiality, which contributes to the development of the student's analytical Skills and critical thinking. At this stage, the competencies assigned on the instrumental axis are widely used since the means to obtain information must potentialize the research work. The manner with which such tools are utilized must be reflective instead of simply mechanical.

4. Interpretation of collected data:

The level of abstraction and the ability to interpret must be adjusted to the competencies already acquired by the student. For younger students, the educator could stimulate an interpretation that consists in the description of the observations and the comparison of images. For older students, however, the educator could, for instance, facilitate abstract analyses, inferences, and contextual formulation of the moment when the collected images were produced.

5. Elaboration of results:

The Research's final product depends on the student's development level. However, the product should contain a layout (in written or in visual form) of: the course taken by the student's research, the research sources, the methods and techniques utilized, an organized diagram of the collected data, and whenever possible, an interpretation of such data. There are several ways of presenting the results of a research: written reports, recorded video, posters, books, exhibitions, among others.

6. Sharing of results:

After the Research has concluded, the student must think of a way to publicize the results both to the group and to the school community. This could be accomplished through mini-seminars, posters etc. It is important to include in the presentation not only the results and discoveries, but also the report on the path taken by the research.