REPORT

2023

Fondazione ISMU ETS

Akelius project: evidence generation on impact report

Scale-up in Italy s.y. 2022/2023

FONDAZIONE ISMU
INIZIATIVE E STUDI SULLA MULTIETNICITÀ

Akelius

unicef

www.ismu.org

Immagine di copertina: Shutterstock

Copyediting Elena Bosetti

This report is based on research conducted by a team from the ISMU Foundation coordinated by Emanuela Bonini; Giulia De Bernardi and Alberto Vergani wrote it with her. UNICEF colleagues (Elena Locatelli, Sarah Martelli, Sophia Benassila, and Wanda Grimaldi) provided significant support for the research and the report.

In addition, special thanks go to all the teachers and school leaders, Ukrainian schools and associations that were involved in the Akelius app project with their students.

Index

Acronyms

AA – Akelius e-learning App

CA – Contribution Analysis

CAF - Contribution Analysis Framework

ENG L2 - English as second language

FRA L2 - French as second language

IC – Istituto Comprensivo

ISMU – Iniziative e studi sulla multietnicità

ITA L2 - Italian as second language

MOE – Ministry of Education

NAI – Newly Arrived in Italy

OoS – Out of School

PC – Personal computer

SEN – Special Educational Need (student)

TOC – Theory of Change

TOP – Theory of Programme

UNICEF – United Nations International Emergency Children's Fund

Executive Summary

This report summarises the main **evidence of the impact of the Akelius scale-up project** on primary school students. Akelius is an e-learning app for teaching Italian L2 (June 2022-June 2023) aimed at newly arrived students in Italy (NAI) in primary and lower secondary school and a tool for dealing with the consequences of the Ukrainian crisis and the arrival of Ukrainian families in Italy.

The *Evidence Generation of Impact* activity adopted a simplified **Contribution-Analysis** as an overarching approach, aimed at identifying the extent to which the Akelius e-learning app contributed to the increase in the proficiency in Italian as a second language (ITA L2) of the primary school NAI students who used it in blended learning settings. The increase was intended as the difference between i) the level of proficiency in ITA L2 at the beginning of the use of the platform and ii) the level achieved at the end of the s.y. 2022/2023.

The starting point for identifying Akelius e-learning app *contribution* was to measure **its effect** on NAI primary school students[1]: **94% of students progressed in listening skills** by either one, two or three levels and **91% improved their reading skills** by either one, two or three levels.

The ***contribution*** of the Akelius e-learning app to the students' results emerged from the evaluation as **consistent, visible and recognizable**. The most relevant expected ***assumption-mechanism couples*** underpinning the platform use (and considered responsible for generating ITA L2 improvement) have been working and operating during the **project's implementation**. In addition, most of the ***external factors/rival explanations*** that generated ITA L2 proficiency improvement **did not make Akelius e-learning app contribution marginal.**

- **the externals/rivals which supported the increase of ITA L2 proficiency and that could reduce Akelius e-learning app contribution, have mainly had a *moderate* influence on ITA L2 proficiency improvement** (such as: students' daily use/exposure to ITA L2 outside the Akelius Project; other curricular/extra-curricular projects not on ITA L2 involving the same students/teachers during AAuse; students' participation in other ITA L2 structured activities, during Akelius project; school experience in delivering ITA L2 courses outside/before Akelius project);
- **the externals/rivals which reduced the increase of ITA L2 proficiency and that could increase Akelius e-learning app contribution, have had a *low* (negative) influence on ITA L2 proficiency improvement** (such as: students' background; school experience in delivering ITA L2 courses in a blended environment; average duration in hours per student of Akelius e-learning app use);
- **the external/rivals which supported the increase of ITA L2 proficiency and operated also as internal factors reinforcing both Akelius e-learning app use and ITA L2 reading and listening proficiency improvement, have had a *high* or *moderate* influence** (such as: students' motivation; teachers' motivation and commitment in using Akelius; physical spaces availability and suitability; well-working internet connection; teachers' skills; tablets cables, plugs, technical equipment; digital technologies).

[1] See below for details.

1. Evaluation approach and methodology

The *Evidence Generation of Impact* activity adopted a simplified Contribution-Analysis (CA) design as an overarching approach. Contribution Analysis (Mayne, 2011, 2012, 2013) is a theory-based approach used to identify an intervention's contribution to a change – or set of changes – and is particularly useful in cases where it is not possible to attribute the change(s) directly to the intervention. In any theory-based approach, the foundational element is the Theory of Change (TOC) model of the intervention, which can be defined as a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context as a consequence of a specific intervention. When using Contribution Analysis in impact evaluation, the Theory of Programme (TOP), i.e. the impact pathway that shows the results chain that links the activities with their short-term outputs and their mid-term effects, is further enriched through the identification of the key assumptions underlying the intervention and explaining why it should produce the desired changes. It also requires the identification of the internal implementation mechanisms for each assumption, i.e. the processes that translate the assumptions into practice within the intervention, and of the external rival explanations or intervening factors, i.e. the events and conditions unrelated to the intervention that influence the results of the project by hindering or facilitating them, therefore affecting (positively or negatively) the ability of the intervention to contribute to the results. This 'enriched' TOC model constitutes the Contribution Analysis Framework (CAF) based on this evaluation approach.

The rationale for using CA in the impact evaluation of the Akelius Scale-Up project was to understand the extent to which the Akelius e-learning app, used in blended learning settings, contributed to an improvement in the mastery and fluency (proficiency) in Italian as a second language (ITA L2) of the primary school or lower secondary school NAI student[2] who used the Platform. Therefore, the impact evaluation process was guided by the following question: "To what extent has the Akelius e-learning app contributed to the improvement of the listening and reading skills in Italian as L2 of students?". The increase was intended as the difference for each student between the level of mastery/fluency of ITA L2 at the beginning of the use of the AA (in a blended learning environment) and the level achieved at the end of the school year 2022/2023.

In order to answer the above evaluation question, the evaluation data collection and analysis relied on a **mixed-method approach** based on both qualitative and quantitative methods and drew from different sources of information. The **desk review of relevant documents,** including the Akelius Manual, reports on Akelius e-learning app implementation

[2] NAI, which stands for "Nuovi Arrivati in Italia", refers to newly arrived students in Italy who do not speak Italian or speak it very little, or those who have been enrolled in school for less than two years.

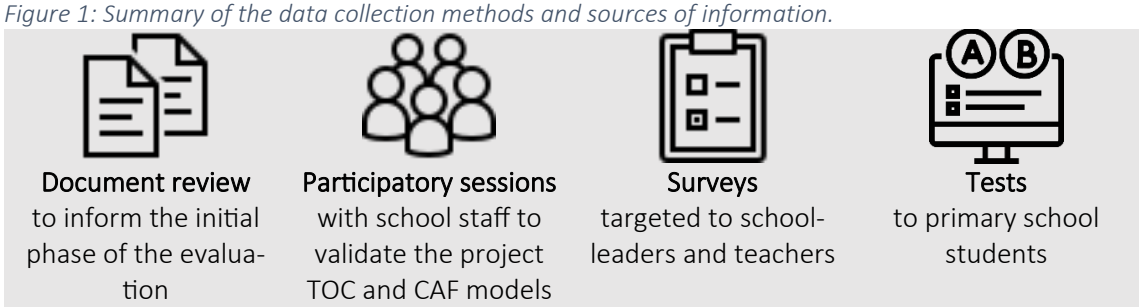
in other countries, and the Report on Pilot-Implementation in Italy, informed the development of the TOP model and CAF[3]. Participatory sessions with teachers from selected schools involved in the project led to refining and validating the TOP model and CAF.

Qualitative data collected through the desk review and the participatory sessions were complemented with quantitative data coming from the results of the listening and reading proficiency tests administered to the primary school students who had used the Akelius e-learning app during the school year 2022/23. Further quantitative data also came from two surveys, one targeted to the school directors and one to the teachers participating in the project (although the surveys were administered as part of the ongoing project monitoring and not specifically as part of the impact evaluation).

The data analysis was guided by the overarching evaluation question on the extent of the Akelius e-learning app's contribution to the improvement of the students' skills in ITA L2. Different methods of analysis and synthesis were used depending on the data collected. Content analysis constituted the core of the qualitative analysis used to identify the key elements of the TOC model (i.e. expected outputs and effects, assumption-mechanism couples, and potential rival explanations/factors) and build their theoretical models. Content analysis was also applied to analyze data from the participatory sessions' transcripts to refine and validate the TOC model and highlight divergent viewpoints and opposing trends that emerged from the insight and experience of the teachers.

Quantitative analysis was applied to the results that emerged from the performance test administered to the primary school students at the end of the school year 2022/23 and to the data collected through the school directors' and teachers' surveys. The data was processed through descriptive statistics to bring out trends and frequency distributions. Quantitative analysis was also applied to the assumption-mechanism couples and to the main rival factors/explanations at the end of both rounds of participatory sessions to rank the most relevant assumption-mechanism couples and rival factors based on what was indicated by the teachers.

Figure 1: Summary of the data collection methods and sources of information.



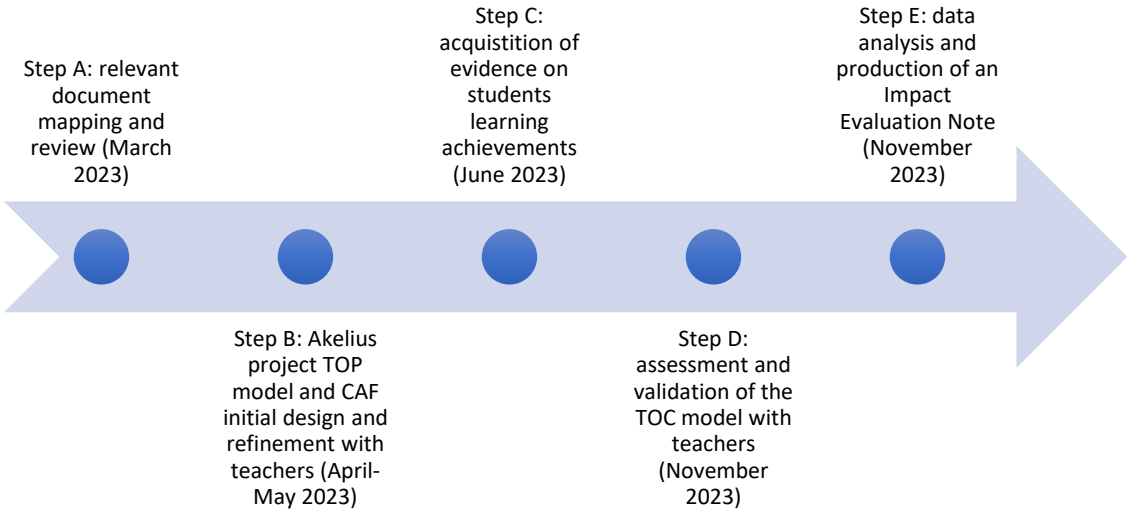
[3] UNICEF-Innocenti, *Unlocking Learning. The use of digital learning to support the education and inclusion of refugees and migrant children in Bosnia and Herzegovina* (by Svetlana Poleschuk, Andrea Soldo and Thomas Dreesen), January 2023, Florence; UNICEF-Innocenti, *Unlocking Learning. The use of digital learning to support disadvantaged children language learning and social inclusion in Italy* (by Svetlana Poleschuk, Thomas Dreesen, Barbara D'Ippolito, Joaquin Carceles Martinez Lozano), January 2023, Florence; UNICEF-AKELIUS, *Il corso digitale Akelius per l'apprendimento delle lingue in modalità ibrida (Manuale per gli insegnanti),* 2019 edition.

As a validation technique, all evidence emerged from the data analysis was **triangulated** across different data sources and data collection methods to corroborate and increase the reliability and validity of the evaluation analysis. Finally, the evidence emerged from the different sources of information was **synthesized** into findings and conclusions.

1.1. The evaluation process

The Evidence Generation of Impact design was implemented into a five-step process, as summarised in the figure below. The outcome of the overall process has been the definition of a so-called *contribution story* that links in a causal way the use of the Akelius e-learning app to the students' progression in Italian L2.

Figure 2: Timeline of the Impact Evaluation process, articulated into five steps.



Step A was brought to develop the Impact Evidence Generation Protocol, which set out the key elements of the evaluation design and process. The Protocol was developed by two dedicated experts within ISMU, drawing on the approved project proposal, which required the Impact Evidence Generation to be methodologically based on applying a simplified Contribution-Analysis design (Mayne, 2011, 2012, 2013). This step entailed the review of the Akelius Users' Manuals, the reports on Akelius e-learning app implementation in other countries, and the Report on Pilot-Implementation in Italy[4] to gather an overall understanding of the intervention and the key elements on which it was based. It also entailed searching for documents regarding other interventions similar to Akelius scale-up, from which to map the most recurring cause-effect schemes, outcomes and influencing variables in preparation for the following steps.

Step B led to the development of the Akelius project Theory of Change model, which was articulated into two sub-steps. Firstly, it involved identifying the main elements of the Akelius Theory of Programme and Contribution Analysis Framework, drawing on Step A outputs and relevant project documents. ISMU Foundation experts drafted a preliminary

[4] See above for references.

model of the Theory of Programme, i.e., the impact pathway that shows the results chain that links the activities with their short-term outputs and mid-term effects. The Akelius model was defined in a basic and simplified version, especially evidencing the most relevant effects expected from the Akelius Scale-Up implementation at the project conclusion and 12 months after its end. The Theory of Programme was then enriched with the identification of the key assumptions and related mechanisms underlying the projects, as well as the main rival explanations that may have a role in generating the project's effects on direct beneficiaries. Rival explanations were identified amongst events, conditions, factors, and variables external to the Akelius project but able to positively or negatively influence its effects, i.e., by increasing or reducing the project's contribution. Par. 2.1 below reports the original models developed based on a desk exercise.

Secondly, Step B entailed the refinement and validation of the desk-based TOP model and CAF with the participation of representatives from selected schools that had started using the Akelius e-learning app during the school year 2022/23. The process was implemented through six online sessions held via Teams platform, which lasted about two hours each. Each session was facilitated by one or both ISMU evaluation experts with the support of a PowerPoint presentation and an essential guideline for conducting the participatory sessions. The invitation to the sessions targeted the teacher referents within the selected schools and/or a teacher who carried out the activities with the students using the Akelius e-learning app or who followed students who used the platform. Overall, 34 participants attended the six meetings, representing 24 schools (six from Bologna province, 10 from Milan province, and eight from Rome province).

The schools invited to participate in the sessions were selected according to a list of criteria validated with UNICEF, which included having a high number of students involved in ITA L2 courses using the Akelius e-learning app in relation to the total number of eligible students; having received a high number of tablets from the Akelius project for the use of students and/or teacher; implementing a number and variety of activities for teaching ITA L2 (such as group teaching activities carried out outside the classroom even with children from different classes; individual teaching activities carried out outside the classroom; individual or group teaching activities structured by the class teacher and carried out in the classroom). Further selection criteria were:

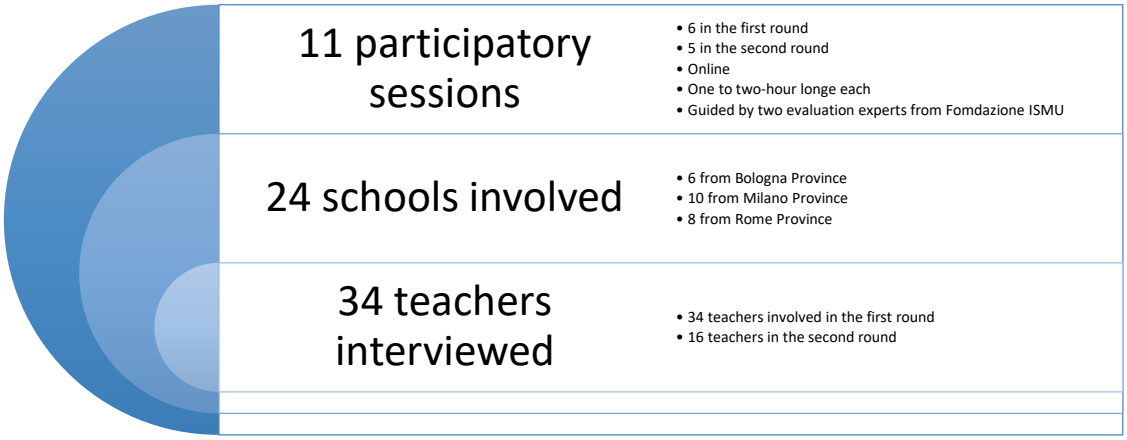
- being of different levels, i.e. both primary and lower secondary schools; being located either in central areas or in the suburbs;
- being located in different provinces of Italy (Milan, Bologna, and Rome) in order to ensure geographical coverage that reflects the implementation of the project in Italian territory.

The sample, whose final composition was also shaped by teachers' effective availability to participate, included schools of different sizes (both big and small) and schools that started using the Akelius e-learning app before March 2023 and after March 2023.

The sessions consisted of sharing the TOP model and CAF with the panels of teachers and teacher referents to collect their comments and inputs. In particular, participants were asked for feedback on whether the TOP model included the most important elements and reproduced the logic of the intervention. Similarly, they were asked to comment on the list of assumption-mechanism couples as well as on the list of rival explanations by reflecting on whether they included the most important elements and whether there

were key components to delete or add. The participants were also invited to rank the most relevant pairs of assumption mechanisms in the list and the most relevant rival explanations. At the end of this validation process, the result of each panel was synthesized into a unified version of the refined TOP and CAF. The output of this round of sessions is reported in Par. 2.2 below.

Figure 3: number of schools and sessions involved in the participatory process to validate the TOC and CAF models



Step C focused on the acquisition of structured evidence on ITA L2 learning achievements by primary school students who used the Akelius e-learning app in blended learning pathways during the school year 2022/23. Evidence on ITA L2 final proficiency in reading and listening skills was collected from a panel of students through tests created by experts in literacy assessment[5] specifically for the Akelius Scale-Up project that covered all ITA L2 course levels included in the platform (i.e. A1, A2 and B1). The tests were administered in June 2023, before the end of the school year, to a non-statistically representative sample of students. The students were identified according to the following criteria:

- Attending primary school level only (lower secondary school level students were excluded from the sample);
- Belonging to different entry levels or different course levels attended (i.e. pre-A1, A1, A2 and B1);
- Experimenting different ways of using the Akelius e-learning app, such as through self-fruition, in ITA L2 dedicated to group or individual courses, during in-class individual or small-group activities;
- Using the platform (in % of total hours per-student of ITA L2 pathway) for no lower than 40% and across different percentages (40-60%; 60-80%; >80).

In total, 347 primary school students who had used the Akelius e-learning app during the school year took two tests administered through the platform itself, which assessed their ITA L2 listening and reading skills. In order to measure the changes in their level of understanding of Italian as L2, the score achieved by each student in the test was compared

[5]See the Scale-up Report (Par. 5.3) for details on the tests.

with the level of ITA L2 individually assigned by their teachers when starting to use of the platform. Individual data were treated in order to obtain aggregated scores organized by level of entry course and level of proficiency reached with the test (the test results are available, for our purposes, in Par. 2.3 below[6]). The results of the student tests were used to inform the second round of analysis of the TOC and CAF models conducted in November 2023, as described in the following section.

Step D aimed to assess the extent to which the use of the Akelius e-learning app in a blended learning approach contributed to the improvements in the level of understanding of ITA L2, as detected by the tests administered in Step C. This assessment was conducted through a second round of participatory sessions involving the teachers and their referents of the same schools selected for the first round of participatory sessions (see Step B). In the second round of sessions, the participants were invited to discuss the key elements of the CAF (hypothesis-mechanism couples and rival explanations) as emerged and synthesized from the first round, in light of the results of the tests administered to the primary school students as well as in light of their overall experience in facilitating and supervising the use of the Akelius e-learning app with the students some months after the conclusion of the previous school year, and at the start of a new one. The participants were asked to provide feedback on the relevance of the different assumption-mechanism couples and the rival explanations that had emerged as the most important during the first round of participatory sessions. The participants were also tasked to express an overall judgment of the contribution of the Akelius e-learning app use to the students' improvements as recorded by the tests on a four-rank scale from 'no contribution' to 'a lot of contribution', and through a ranking scale from zero (minimum score) to 10 (maximum score). The outcome of this second round of sessions was a further refined version of the CAF in which the contribution of each panel was synthesized.

Overall, 16 teachers and teacher referents participated in five sessions from 13 schools (one from Bologna province, nine from Milan, and three from Rome). The sessions were held online through the Teams platform and lasted around one hour each. The lower number of teachers/referents and schools that participated in the second round compared to the first one was due to the high number of commitments the teachers were involved in during the same period in which the sessions were offered.

In Step D, the evidence collected through the teachers' panels was complemented by quantitative data gathered through the surveys targeted to all the schools and teachers involved in the Akelius project. These surveys[7], administered as part of the project monitoring component, offered the opportunity to include questions on potential rival explanations and factors to collect a higher number of responses compared to the number of teachers and teacher referents reached through the participatory sessions. These questions were about:

- teachers' perceptions of relevant elements of the TOC and CAF implementation,
- teachers' opinions on the platform's contribution to students' learning progress in ITA L2.

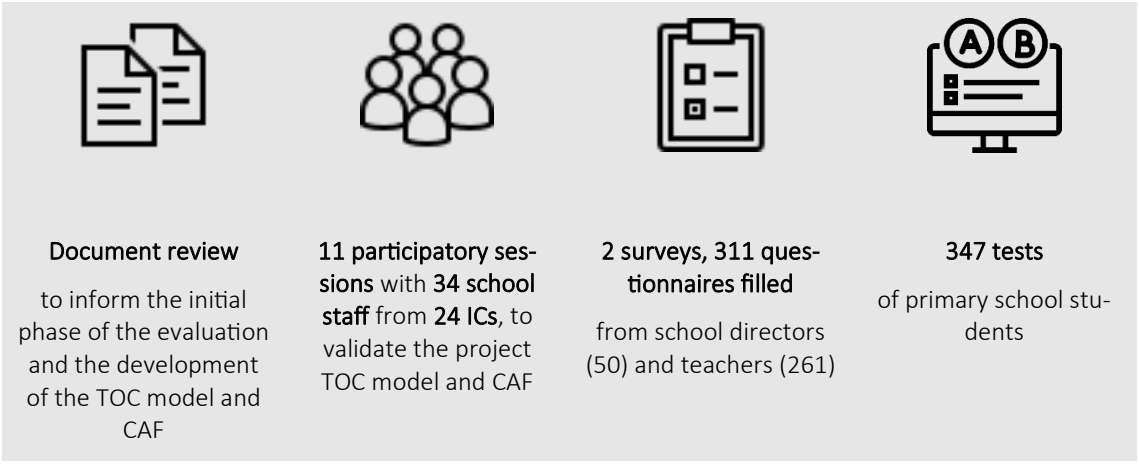
[6] Refer to the Scale-up Report for details (Par. 5.3).

[7] Refer to Scale-up Report for details on the two surveys.

Overall, 50 school questionnaires and 261 teacher questionnaires answered the questions related to impact[8]. The analysis of the answers is available in Par. 2.5.

Finally, **Step E** involved the development of this *Impact Evidence Note* to summarise the main steps of the evaluation process and the main results. In this final step, all the evidence collected from the different sources of information was reorganized and cross-checked to be synthesized against the different elements of the CAF. This guided the generation of findings and conclusions on whether and how the use of the Akelius e-learning app contributed to the students' improvement in ITA L2 understanding.

Figure 4: Summary of the data collection methods and sources of information.



1.2 Limitations

This Evidence Generation of Impact was characterized by some limitations, partly due to the limited resources available for this assessment and partly due to the characteristics of the Akelius e-learning app, which is still in an evolutionary status. All the identified limitations were taken into consideration during the data analysis and acknowledged in the generation of the evaluation findings.

In the selection of the schools participating in the sessions to refine and validate the TOC model, the 5 OoS settings (which represented the 8% of the settings involved in the Akelius Scale-Up project) were not included in the data collection exercises. Given that OoS settings organize, by definition, extra-curricular courses, these settings are very different – also in their profile and mission – from schools and therefore, they have not been included in the evaluation. The number of schools involved in the Evidence Generation of Impact (all the schools participating in the project were targeted with the surveys, and 24 schools were involved in the participating sessions) was considered to be enough to compensate for the absence of the OoS settings in the evaluation data collection.

The creation of the school panels for the participatory sessions did not follow the original idea of including *each panel* in a consistent way: 1) both primary and lower secondary schools; 2) schools located in the same region, in central areas and in the suburbs; 3) schools which started AA use before March 2023 and schools which started AA use after

[8] An overview of the results of both surveys can be found in the Scale-up Report.

March 2023; 4) both big-size and small-size schools. Particularly when organizing the second round of sessions, it was not possible to respect these criteria due to the limited availability of teachers or teacher referents. Therefore, the main criteria used to form the school panels ended up being the availability of teachers/referents on the proposed dates. Since the data from both surveys and tests were analyzed aggregated, the fact that the composition of the panels did not necessarily reflect the original criteria did not constitute an issue in the overall data analysis.

Akelius e-learning app proficiency tests only focused on listening and reading skills without assessing the student's ability to communicate through writing and speaking. While this was certainly a gap in the assessment of the general level of proficiency of students in ITA L2, the two tests designed covered the main learning components of the platform, which, in fact, were considered by the teachers to be reading and listening. Another limit of the students' tests was that they did not go beyond the B1 level, without capturing whether any students had reached the B2 level. Further, the tests targeted only primary school students, the large majority of those involved in the Scale-Up project (467 out of 736 attending ICs[9]). All these limitations were because the tests were specifically developed for this evaluation in the project's lifetime, and the development of further modules, e.g. to cover the language production skills and B2 level, would have required more resources.

The tests assessed the improvement in the student's proficiency of ITA L2 by comparing the results of the test with the course level attended, as a proxy of single students' proficiency before using the Akelius e-learning app. Students were assigned a level by their teachers based on the student's overall ability to understand and express him/herself in Italian, as no entry test was available in the Akelius e-learning app at the start of its use. While the teachers' ability to assess their students' proficiency level is not questioned, the absence of an Akelius pre-test meant to assign the students to their entry-level in the platform limited the consistency and comparability of the baseline data with the results collected from the final test.

Lastly, the analysis of the students' test looked at the aggregate results, not broken down by individual school. By using combined data, when cross-checking them with the data on the rival factors collected from the participatory sessions, it was impossible to unequivocally conclude whether an external factor had contributed to the learning. For instance, if a rival factor had strongly contributed to the learning in a school, while it contributed a little in another one, the lack of disaggregated data by school from the test results did not allow to say whether that factor could in fact be considered a contributory factor or not. However, the role that the different rival factor might have played was assumed in the development of the evaluation findings by referring also to the data from the surveys.

[9] Scale-up Report, p. 19.

2. Main findings

In this chapter the main findings of the application of the CA to answer the impact-question will be presented; each step of the CA implementation process will be described together with its main evidence. At the end of the process, this evidence will make possible the definition of a *contribution story* (Mayne, cit.), which is how *impact* is reported in the CA theoretical framework.

2.1. The starting point: Akelius Projects Theory of Programme and the Contribution Analysis initial design

As already presented, a desk analysis of the Scale-up project's documents, of the reports deriving from Akelius e-learning app implementation in other Countries and of the *Teachers' Manual for using the platform*[10] allowed for the identification, according to the CA scheme, of the Akelius (Scale-up) project's

a) *Theory of Program* (Rossi and Freeman, 1999[11])

b) key assumptions and related mechanisms underlying the projects.

These two products, the evaluation process's starting point, are presented below.

The Theory of Program (TOP) has been defined in a basic and simplified version, especially evidencing – for our purposes – the most relevant effects (at the project's conclusion but also 12 months after) expected from Akelius Scale-up implementation.

Tab. 1. Akelius Scale-up project Theory of Program (TOP)

INPUTS	ACTIVITIES	OUTPUTS	*EFFECTS (Increase of/reduction of)*
Akelius e-learning app (AP) **UNICEF Akelius Manual** **(Fundings)** **Tablets/devices** **ISMU technical staff** **Schools/OOS (Out-of-Schools) settings teachers**	- Identification of schools - Identification and recruitment of teachers - Teacher training (for using AK Plat) - Involvement of students - Distribution/activation of tablets	(Dashboard data) - Public schools and OOS-settings involved in the project - Teachers involved and recruited - Teachers training courses delivered - Teachers involved and trained	**Students'** improvement in ITA L2 communication skills (reading, understanding, writing: based on final test. Also speaking but not formally tested) **Students'** improvement in school performance (learning final results) **Students'** social inclusion improvement (in

[10] See above for references.

[11] Sixth edition.

	- AK Plat integrated use in dedicated ITA L2 **out-of-class group or individual courses** (Pre A1/A0, A1, A2, B1); AK Plat integrated use **in class** ITA L2 activities, **individual or group** (Pre A1/A0, A1, A2, B1)	- Students involved (of which Ukrainian) - Tablets distributed to students and teachers - ITA L2 courses delivered (schools/OOS settings; by level)	schools but also in life in general) **Teachers'** improvement in ITA L2 blended teaching abilities (using language learning support platforms) **Schools'** increase of attractiveness (for parents and minors with migratory background) and inclusion (of students with …) **OOS (Out-Of-Schools) Settings'** improvement in ITA L2 language (blended) teaching effectiveness

According to the CA scheme, below are the key assumptions and related mechanisms underlying the projects.

Tab. 2. Assumptions and mechanisms underlying Akelius Scale-up project

	Assumptions (the intervention is based upon or supporting intervention design)	Mechanisms (translating into practice intervention's assumptions)
1	The structure and contents of Akelius e-learning app enhance the lessons (allowing for *blended learning* practices) and encourage students to learn ITA L2	Being alternative (to traditional learning platforms), interactive, rich in numerous and diverse multimedia resources, the Akelius e-learning app is able to enhance [see assumption 1]
2	Teachers understand and appreciate the added value of adopting the Akelius e-learning app (and blended learning in general) and integrate the Platform use into their teaching strategies	The compliance of the Akelius e-learning app to the GRR model (Gradual Release of Responsibility: AA Handbook, p. 13) allows for a collaborative learning environment among students/teachers which is appreciated by teacher(s)... [see assumption 2] The holistic approach of Akelius e-learning app and its key-principles (AA Handbook, p. 20) support students' learning in such a way that teachers ... [see assumption 2]
3	Students are stimulated to use Akelius e-learning app by the richness and variety of its contents (especially in a blended learning environment) as well as by teachers	Blended learning based on Akelius e-learning app is supported and guided by the teacher(s) but at the same time offers students plenty of room for autonomous and personalized learning activities based on their own interests and curiosity
4	The use of Akelius e-learning app by Newly Arrived (in Italy) students (in a blended learning environment) improves their proficiency	NAI students' use of Akelius e-learning app in blended learning pathways is consistent with in-

	(skills, ability to communicate in ..., ...) in ITA L2	dividual learning styles and rhythms, supports individualized teaching and learning, enhances the autonomy of students in defining and achieving their own learning outcomes
5	The use of Akelius e-learning app in a blended learning environment is consistent with the key principles of (foreign) language learning	The key principles (safe and *warm* learning environment; target-language modulation; focus on communication and practical activities; *scaffolding*[12]; blended learning; ...) are embedded in Akelius e-learning app and thus their adoption by teachers is made easier and more feasible

The same sources above mentioned[13] have been used for identifying – again, according to CA scheme – the main *rival explanations* which, external to Akelius project, may have a role (positive or negative, to simplify, increasing or reducing project's contribution) in generating project's effects on direct beneficiaries. These *rival explanations* (*rival* as they are other from the project) consist in events, conditions, factors, variables which are different from Akelius project but able to influence its effects. Here below (Tab. 3) is the list of the identified *rival factors/explanations* external to Akelius project.

Tab.3. Rival factors/explanation generating Akelius Scale-up project's effects

Rival factors/explanation generating Akelius Scale-up project's effects
1. Duration in hours of each student's training pathway (blended mode: Ak. Plat. + face-to-face) (high/low)
2. Combination of Ak. Plat. and face-to-face activities (blended learning design) (working/not working, Ak. Plat. Handbook, p. 33)
3. Students motivation in ITA L2 learning (high/low)
4. Teachers' motivation in using Ak. Plat. in a blended learning environment (high/low)
5. Students' daily use/exposure to ITA L2 outside the Akelius Project (at school, with friends, with parents, ...) (high/low)
6. Students' parents' awareness (and consequent behaviour and attitudes) of the importance for their son/daughters to learn ITA L2 (high/low)
7. Other curricular or extra-curricular projects (not on ITA L2) involving the same students and/or teachers during the implementation of Akelius Project (yes/no; relevant/irrelevant)
8. Students' participation in other ITA L2 structured learning activities (during the implementation of the Akelius Project) (yes/no)
9. Teachers' digital competences (high/low)

[12] Use of examples, paraphrases, analogies and so on.
[13] See references.

10. ITA L2 teachers' competences in blended learning/teaching (high/low)

11. Teachers' knowledge and skills in using Akelius e-learning app (high/low)

12. Teachers' commitment (required) in the preparation and planning of the lessons using the Akelius e-learning app (moderate/relevant)

13. Digital technologies availability (to students and teachers) and appropriateness (yes/no)

14. Physical spaces availability and suitability (for ITA L2 courses) (available/not available; suitable yes/no)

15. Internet connection (yes/no; well-functioning/not functioning)

16. Facilities and equipment for using the tablets (power cables, electrical sockets) (yes/no)

17. Approval/support of the school director (high/low)

18. Direct experience of the school in providing ITA L2 courses (before Akelius Project: long/short; established/occasional)

19. Practices and modes of delivery of ITA L2 courses in the school (before Akelius: group/individual courses, yes/no; teachers specialized in ITA L2, yes/no; involvement of volunteers; coherence with the Akelius e-learning app, yes/no)

This list of *rival factors/explanations* – crucial in the CA scheme – has been submitted and discussed in the teachers' evaluation sessions of May and November 2023[14] but a selection of them has also been proposed as specific items/questions in the schools (principals') and teachers' questionnaires. This has been done in order to have a high number of feedback (from teachers and principals) on this key-content of the evaluation model.

More in detail:

- In the school questionnaire, factors/explanations 17 (see above), 8, 18, 19, 13, 14 and 15 have been posed;
- Factors/explanations 1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 16, 17, 18, and 19 have been posed in the teachers' questionnaire.

2.2. Schools' sessions 1 outcomes

A sample of schools[15] involved in the Akelius project has been selected for Sessions 1 and 2 to discuss and validate the different elements of the TOP and CA schemes. The criteria adopted for school selection have been presented in Par. 2.1 above.

Below (Tab. 4) is the TOP initial representation integrated with the additional contents (in bold letters) that emerged from school Sessions.

[14] See below.

[15] See Chap. 1 for the number of schools/teachers involved in the sessions.

Tab. 4. After Sessions 1 integrated TOP

INPUTS	ACTIVITIES	OUTPUTS	*EFFECTS (Increase of/reduction of)*
Akelius e-learning app (AP) UNICEF Akelius Manual (Fundings) Tablets/devices ISMU technical staff Schools/OOS settings teachers	- Identification of schools - Identification and recruitment of teachers - Teachers' training (for using AK Plat) - Involvement of students - Distribution/activation of tablets - AK Plat integrated use in dedicated ITA L2 out-of-class group or individual courses (Pre A1/A0, A1, A2, B1); AK Plat integrated use in-class ITA L2 activities, individual or group (Pre A1/A0, A1, A2, B1) - **School-dedicated Helpdesk**	(Dashboard data) - Public schools and OOS-settings involved in the project - Teachers involved and recruited - Teachers training courses delivered - Teachers involved and trained - Students involved (of which Ukrainian) - Tablets distributed to students and teachers - ITA L2 courses delivered (schools/OOS settings; by level)	Students' improvement in ITA L2 communication skills **(especially reading and understanding less for spoken)** **Students' and teachers' digital skills improvement** Teachers' improvement in ITA L2 blended teaching abilities (using language learning support platforms) Students' social inclusion improvement (in schools but also in life in general) Students' improvement in school-performance (learning final results) **and (for students with disabilities) autonomy** **Students' motivation increase (in ITA L2 learning)** **(in long-term)** Schools' increase of attractiveness (for parents and minors with migratory background) and inclusion (of students with …)

Regarding TOP, Sessions 1 mainly focused on the effects in order to:

a) confirm if – as proposed in the 4/2023 *Impact Generation Activities* presentation - the most relevant one was *Students' improvement in ITA L2 communication skills* (also considering the implementation timing of impact evaluation, whose data-collection activities related to effects had to be concluded by September 2023 latest)
b) identify (if emerging from teachers' feedback and considerations) a kind of *chain of effects* from those nearest to the project's conclusion to the long-term.

The Sessions confirmed *Students' improvement in ITA L2 reading and understanding skills* as the most important effect of the Akelius Scale-up project on direct beneficiaries (primary and lower secondary education students) and identified the following *chain-of-effects* structure:

a) Students' (especially) and teachers' **digital skills** improvement AND

b) Teachers' improvement in ITA L2 **blended teaching abilities** (using language learning support platforms),

which generate:

- Students' improvement in ITA L2 **communication skills** (especially reading and understanding; less for spoken) (key-effect)

which generates:

1. Students' **social inclusion** improvement (in schools but also in life in general: Akelius Plat form is stimulating, supports initial relations and incoming of NAI students) AND
2. Students' improvement in **school-performance** (learning final results: Akelius e-learning app may be used for supporting teaching ENG L2, FRA L2, math, geography and science) AND
3. **Students with disabilities' autonomy** (in studying and learning)

which positively influence

1. **Students' motivation** in ITA L2 learning;
2. in the long-term, **schools'** increase in **attractiveness** (for parents and minors with migratory backgrounds) may be the ultimate effect.

Another Session 1 important output was the list of the most voted[16] Akelius Project TOC's *Assumptions and Mechanisms* couples. The ranking is presented below: It is based on the number of teachers who indicated each couple as the **most relevant** in its *contribution to generating Akelius Project effects on beneficiaries' ITA L2 proficiency improvement*.

Tab. 5. Assumptions-mechanisms most relevant couples (after Sessions 1)

Relevance	Assumptions	Mechanisms
1	Students are stimulated to use Akelius e-learning app by the richness and variety of its contents (especially in a blended learning environment) as well as by teachers	Blended learning based on Akelius e-learning app is supported and guided by the teacher(s) but at the same time offers students plenty of room for autonomous and personalized learning activities based on their own interests and curiosity
2	The use of Akelius e-learning app by Newly Arrived (in Italy) students (in a blended learning environment) improves their proficiency (skills, ability to communicate in ..., ...) in ITA L2	NAI students' use of Akelius e-learning app in blended learning pathways is consistent with individual learning styles and rhythms, supports individualized teaching and learning, enhances the autonomy of students in defining and achieving their own learning outcomes
3	The use of Akelius e-learning app in a blended learning environment is consistent with the key principles of (foreign) language learning	The key principles (safe and *warm* learning environment; target-language modulation; focus on communication and practical activities; *scaffolding*[17]; blended learning; ...) are embedded in Akelius e-learning app and thus their adoption by teachers is made easier and more feasible

[16] Ranked by importance and priority in generating the expected effect (ITA L2 proficiency improvement).
[17] Use of examples, paraphrases, analogies.

4	Teachers understand and appreciate the added value of adopting the Akelius e-learning app (and blended learning in general) and integrate the Platform use into their teaching strategies	The compliance of the Akelius e-learning app to the GRR model (Gradual Release of Responsibility: AA Handbook, p. 13) allows for a collaborative learning environment among students/teachers which is appreciated by teacher(s)... [see assumption 2] The holistic approach of Akelius e-learning app and its key-principles (AA Handbook, p. 20) support students' learning in such a way that teachers ... [see assumption 2]
5	The structure and contents of Akelius e-learning app enhance the lessons (allowing for *blended learning* practices) and encourage students to learn ITA L2	Being alternative (to traditional learning platforms), interactive, rich in numerous and diverse multimedia resources, the Akelius e-learning app is able to enhance ... [see assumption 1]

Here below – to complete the *ingredients* of CA scheme - is the list of *rival explanations/factors* indicated by 5 teachers at least (among all participating in the first round of sessions): again, the ranking is progressive, from the most voted to those voted by maximum 5 teachers. One new factor/explanation has been identified in the sessions (the third one in the list: students' background) and added in the list. The selected explanations/factors may be defined (according to Biggs and Al., 2014) as *highly rival* because they represent – according to teachers involved in the sessions - credible and plausible *alternatives* to Akelius e-learning app use in generating the effects on beneficiary students.

Tab. 6. Most relevant rival explanations/factors (after Sessions 1)

Relevance	Description	Explication
1	Other curricular or extra-curricular projects (not on ITA L2) involving the same students and/or teachers during the implementation of Akelius Project (but somehow coordinated with Akelius e-learning app activities[18])	Other curricular/extra-curricular projects (not in ITA L2) may represent an additional *resource/opportunity* for students to *use* Italian and for teachers to improve their didactical/methodological skills in developing learning. If operating, this *rival* may reduce Akelius e-learning app (AP) contribution to ITA L2 proficiency improvement or be part of a possible explanation of a null improvement; if **not** operating, it may increase AA contribution in improving ITA L2 proficiency while, in case of no improvement, it may act as a possible explanation
2	Students' daily use/exposure to ITA L2 outside the Akelius Project (at school, with friends, with parents, ...)	Students' daily use/exposure to ITA L2 at school, with friends/peers and parents, in everyday life in general may strengthen and develop (in a kind of *natural* manner) ITA L2 skills (especially listening, speaking and understanding). It may therefore (if operating) reduce AA contribution (to ITA L2 ...) or be part of the explication of ITA L2 null improvement; if not operating, this rival may in-

[18] The sentence between brackets is an integration proposed by the teachers during the sessions.

		crease AA contribution in case of ITA L2 improvement while, in case of no improvement, it may be a co-explanation
3	Student's background, i.e.: - origin and mother tongue - psychological and emotional state	A student whose parents/Country of origin language (and culture) is similar to Italian and whose personal situation is not problematic and not experimenting any relevant trauma has a background which is in general (more) consistent/aligned with ITA L2 learning. Such background may (if existing) reduce AA contribution (to ITA L2 …) or be part of the explication of ITA L2 null improvement; if not operating, this rival may increase AA contribution in case of ITA L2 improvement while, in case of no improvement, it may act as a co-explanation
4	Students' motivation in ITA L2 learning	There is no need to explain the role of this rival, being largely self-evident. Motivation (if in force) may reduce AA contribution (to ITA L2 …) or be part of the explication of ITA L2 null improvement; if not operating, this rival may increase AA contribution in case of improved ITA L2 while, in case of no improvement, it may act as a co-explanation as well
5	Teachers' commitment (required) in the preparation and planning of the lessons using the Akelius e-learning app	Preparation and planning of lessons using Akelius e-learning app require teachers' specific skills, engagement and *effort* in order to take the most from its use in a blended learning environment. If this preliminary *investment* is made, it may reduce AA contribution (to ITA L2 …) or be part of the explication of a ITA L2 null improvement; if not operating, this rival may increase AA contribution in case of improved ITA L2 while, in case of no improvement, it may act as a co-explanation
6	Teachers' motivation in using Akelius e-learning app in a blended learning environment	See rival 4 above as described for students
7	Students' participation in other ITA L2 structured learning activities (during the implementation of the Akelius Project)	Other curricular/extra-curricular structured ITA L2 learning activities may strengthen and reinforce language proficiency and capacity of contextualized use. If operating, this *rival* may reduce Akelius e-learning app (AP) contribution to ITA L2 proficiency improvement or be part of a possible explanation of a null improvement; if **not** operating, it may boost AA contribution in ITA L2 improved proficiency while, in case of no improvement, it may act as a possible explanation
8	Physical spaces availability and suitability (for ITA L2 courses)	Dedicated spaces (rooms, labs, …) for ITA L2 learning activities, especially when digital technologies are involved, represent an important asset in giving – also in material terms – language learning a clear and recognizable relevance. If available, this *rival* may reduce Akelius e-learning app (AP) contribution to ITA L2 proficiency improvement or, alternatively, be part of a possible explanation of a null improvement; if **not** operat-

		ing, it may increase AA contribution in ITA L2 improved proficiency while, in case of no improvement, it may act again as a possible explanation

2.3. Learning outcomes test results[19]

In June 2023, 347 students attending primary schools who (obviously) used the Akelius e-learning app have been submitted two tests aimed at *measuring* their level of ITA L2 listening and reading skills. In the tables below, test results (identified with the formal level reached by each student) are crossed with the students' entry levels (identified with the course-level they attended). Columns show (in bold and for each entry level), the number and percentage of students who increased their ITA L2 proficiency in relation to their entry-level (rows). This difference is assumed, as in the Akelius TOC, as the core-variable indicating Akelius e-learning app (and project) *gross* effect (that is, the increase of ITA L2 listening and reading skills).

As the tables show, net of missing answers and B1 course level figures[20]:

- 94% of students progressed in **listening** skills (by 1, 2 or 3 level, bold evidenced): focusing on the largest group (those who attended an A1 course), 63% improved by 2 levels and 33% by one;
- 91% of students improved their **reading** skills (by 1, 2, 3 levels, bold evidenced again): in the largest group (A1), 44% students improved by one level and 49% by two.

Tab. 7. Listening ITA L2 final test results (aggregate)

	Final test achieved level LISTENING			
Course level	**A1**	**A2**	**B1**	Total
PreA1	**4 (4%)**	**35 (35%)**	**60 (61%)**	99
A1	6 (4%)	**49 (33%)**	**94 (63%)**	149
A2	1 (2%)	10 (20%)	**38 (78%)**	49
B1		5 (22%)	18 (78%)	23
Missing		10 (37%)	17 (63%)	27
Total	11	109	227	347

Tab. 8. Reading ITA L2 final test results (aggregate)

	Final test achieved level READING			
Course level	**A1**	**A2**	**B1**	Total
PreA1	**4 (4%)**	**49 (49%)**	**46 (46%)**	99
A1	10 (7%)	**66 (44%)**	**73 (49%)**	149

[19] The tests, specifically designed and developed for Akelius project by PLIDA, are consistent with Akelius e-learning app contests; covered learning and listening skills in ITA L2 at level A1, A2, B1; have been submitted at the end of 22/23 schoolyear to Akelius e-learning app users belonging to primary schools (see the Scale-up Report for a technical explanation of tests logic, structure and contents but also Par. 1.1 of this Report).

[20] Because B1 level participants couldn't, by definition, improve their level (the final test had B1 as maximum target-level).

A2	2 (4%)	15 (31%)	**32 (65%)**	49
B1	2 (9%)	8 (35%)	13 (57%)	23
Missing	2 (7%)	8 (30%)	17 (63%)	27
Total	20	146	181	347

2.4. Sessions 2 outcomes

In Sessions 2[21], teachers and teacher referents (depending on each school) discussed Sessions 1 main outcomes (that is Akelius project's TOC and most voted assumptions, mechanisms and rival explanations/factors) in relation to:

a) ITA L2 tests' aggregated results (referred to primary education level);

b) The possibility to *look at* Akelius e-learning app use and implementation some months after school-year conclusion (therefore having the opportunity to go-back to the projects some months after the conclusion of its first year of implementation).

The discussion was aimed, within the framework of CA scheme, at achieving a final agreement (among the participants) on the Akelius project's most relevant assumptions, mechanisms and rival explanations/factors which should be used – having played a key and recognised role - for assessing and identifying platform's contribution to ITA L2 proficiency improvement (as measured by the tests).

Starting from **assumptions and mechanisms**, the final list validated by sessions participants is below. The 5 assumptions-mechanisms *couples* identified as most relevant in Sessions 1 have been confirmed; a few slight modifications have been introduced in couples 1 and 3 (in bold) together with the redefinition of the couples ranking (with couple 4 moving to the 3rd place; number 5 moving to 4; number 3 downgrading to 5). The first three couples emerge as the most crucial in *representing* why and how the Akelius e-learning app may have contributed to ITA L2 (reading and listening) proficiency improvement in NAIs.

Tab. 9. Assumptions-mechanisms most relevant couples: final list

Relevance	Assumptions	Mechanisms
1	Students are stimulated to use Akelius e-learning app by the richness and variety of its contents (especially in a blended learning environment) as well as by teachers **(whose supporting role is very important anyway)**	Blended learning based on Akelius e-learning app is supported and guided by the teacher(s) but at the same time offers students plenty of room for autonomous and personalized learning activities **also** based on their own interests and curiosity **as well as on ITA L2 proficiency level**
2	The use of Akelius e-learning app by Newly Arrived (in Italy) students (in a blended learning environment) improves their proficiency (skills, ability to communicate in ..., ...) in ITA L2	NAI students' use of Akelius e-learning app in blended learning pathways is consistent with individual learning styles and rhythms, supports individualized teaching and learning, **may** enhance the autonomy of students in

[21] See Par. 1.1.

		defining and achieving their own learning outcomes
3	Teachers understand and appreciate the added value of adopting the Akelius e-learning app (and blended learning in general) and integrate the Platform use into their teaching strategies	The compliance of the Akelius e-learning app to the GRR model (Gradual Release of Responsibility: AA Handbook, p. 13) allows for a collaborative **and positive** learning environment among students/teachers which is appreciated by teacher(s) **and make students feel comfortable** ... [see assumption 3] The holistic approach of Akelius e-learning app and its key-principles (AA Handbook, p. 20) support students' learning in such a way that teachers ... [see assumption 3]
4	The structure and contents of Akelius e-learning app enhance the lessons (allowing for *blended learning* practices) and encourage students to learn ITA L2	Being alternative (to traditional learning platforms), interactive, rich in numerous and diverse multimedia resources, the Akelius e-learning app is able to enhance ... [see assumption 4]
5	The use of Akelius e-learning app in a blended learning environment is consistent with the key principles of (foreign) language learning	The key principles of foreign language learning (safe and *warm* learning environment; target-language modulation; focus on communication and practical activities; *scaffolding*[22]; blended learning; ...) are embedded in Akelius e-learning app and thus their adoption by teachers is made easier and more feasible

Moving to **rival factors/explanations**, here below is the final list of those which – according to sessions 2 outcomes – played an important role in generating ITA L2 learning outcomes (as measured by the listening and reading tests and so on). Sessions 2:

- modified the general ranking of factors/rivals (see the first two columns of the table)
- slightly integrated (in bold letters) two factors/rivals
- highlighted the contribution of other factors/rivals not in the list (which included items with at least 5 votes in Sessions 1: however, none of the other obtained more than 4 mentions.

Tab. 10. Most relevant rival explanations/factors: final list

Sessions 2 ranking	Sessions 1 ranking	Factors/rivals
1	2	Students' daily use/exposure to ITA L2 outside the Akelius Project (at school, with friends, with parents, ...)
2	4	Students' motivation in ITA L2 learning
3	3	Student's background, i.e.: - origin and mother tongue - psychological and emotional state

[22] Use of examples, paraphrasis, analogies.

4	1	Other curricular or extra-curricular projects (not on ITA L2) involving the same students and/or teachers during the implementation of Akelius Project (but coordinated with Akelius e-learning app activities)
5	6	Teachers' motivation in using/**supporting the use (by students) of** Akelius e-learning app in a blended learning environment **(also in innovative ways)**
6	5	Teachers' commitment (required) in the preparation and planning of the lessons using the Akelius e-learning app
7	7	Students' participation in other ITA L2 structured learning activities (during the implementation of the Akelius Project)
8	8	Physical spaces availability and suitability (for ITA L2 courses, **especially in primary schools**)

In Sessions 2 have also been mentioned (as relevant) rival factors/explanations which were not in the initial top-8 list (but they were in the complete list of factors/rivals discussed in Sessions 1):

- Internet connection (not well working): 3 mentions
- Tablets cables, plugs, … (missing/insufficient): 1 mention
- Teachers' skills in ITA L2 teaching in a blended environment, also with students of different levels in the same group (one ITA L2 formally specialized teacher is needed for optimizing Akelius e-learning app use by teachers): 2 mentions
- Teachers' skills in using Akelius e-learning app (intermediate): 1 mention
- Students' parents' awareness (and consequent behaviour and attitudes) of the importance for their son/daughters to learn ITA L2 (low): 4 mentions
- Digital technologies (tablets): 1 mention.

Participants have also been asked to express their assessment of Akelius e-learning app contribution to ITA L2 students' improvement (reading and listening, as measured by the tests) *taking into account* Akelius project's shared

- TOC
- Assumptions and mechanisms
- Rival factors/explanations.

Assessment has been expressed on both a 1-4 scale (1=no contribution; 2 = poor contribution; 3=relevant contribution; 4=decisive contribution) and a 1-10 scale (allowing for a wider distribution of contribution-votes). The assessment results are presented in the following table (one vote for each school, N=14, only votes referred to primary school have been considered, because tests' have been submitted in these schools only).

Tab. 11. Sessions 2 teachers' overall assessment of Akelius e-learning app use contribution to ITA L2 tests' results

	Reading (avg. vote)	Listening (avg. vote)
1-4	3,5 (min= 3, max=4)	3,4 (min=3, max=4)
1-10	8 (min=7, max=9,5)	8,2 (min=7, max=9,5)

2.5. Schools' and Teachers' Questionnaires evidence

As already introduced (see above), some *rival factors/explanations* submitted to teachers in the two CA sessions have also been proposed in the (1) Schools and (2) Teachers' questionnaires in order to get higher numbers of feedback on them.

Here below are presented the answers obtained in the **schools'** (that is *school directors'*) questionnaires (N=50, answers in %).

Tab. 12. Schools' survey questions related to impact evaluation

	1 (min, no)	2	3	4	5 (max, yes)
School-leader endorsement to AA in the school	0%	4%	18%	54%	24%
Same (or largely the same) students' attendance to other ITA L2 courses during AA use	16%	16%	10%	22%	36%
Schools experience in delivering ITA L2 courses (net of AP)	4%	6%	30%	36%	24%
Physical space suitability for ITA L2 courses	0%	10%	22%	40%	28%
School digital technology quality (for learning: tablet, PC)	0%	6%	28%	54%	12%
School internet connection adequacy	0%	10%	14%	40%	36%

Moving to Teachers' questionnaire evidence, here below are the answers referred to the almost complete (see above) list of rival factors/explanations (C11 question: N=261, %[23]): please note that answers do not refer to *potential*/possible rival factors/explanations but to the situation *experienced* in Akelius e-learning app use.

Tab. 13. Teachers' survey questions related to impact evaluation

	Low (Poor, Absolutely no, Marginally, Totally inadequate[24]) 1	2	3	4	High (Good, Absolutely yes, Intensely, Fully adequate) 6
The average duration, in hours, of students' learning pathway (in blended mode with AP) was	10,7	14,6	46,0	19,5	6,5
The combination of AP-based and face-to-face activities was generally	1,9	9,2	36,8	31,0	18,4
Students' average motivation in learning ITA L2 was	1,1	5,7	24,5	37,2	28,7
Teachers/colleagues' motivation in using AA in a blended learning mode was	1,5	8,8	34,9	30,3	21,5
During Akelius Project implementation, students (involved in the project) attended other ITA L2 courses (at school)	31,0	12,6	16,1	16,2	21,1

[23] The total may not be 100% due to missing data.

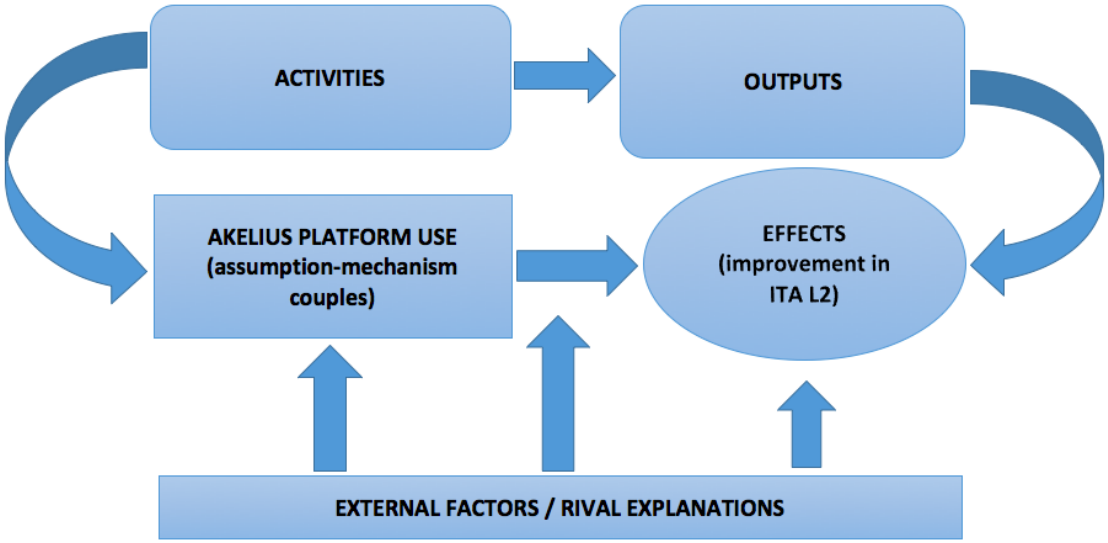
[24] Depending on the item.

Students regularly use ITA L2 in everyday life outside school (in families, with friends, in other social situations, …)	21,5	27,2	31,4	10,0	7,3
Students' parents are generally aware of the importance that their son/daughter learn ITA L2	18,4	22,6	27,6	16,9	11,5
Students attending Akelius Projects have been involved, in the same period, in other curricular or extra-curricular projects **not related** to ITA L2	18,0	11,9	25,7	28,0	13,8
Your school-leader endorsement to Akelius Project has been	6,1	6,1	22,2	29,9	33,7
Your school experience in delivering ITA L2 courses **before** Akelius Project was	9,2	7,7	31,4	31,8	16,5
Your school experience in delivering ITA L2 courses **before** Akelius Project revealed consistent with AA use	43,3	24,1	18,8	6,1	3,1
Your school has suitable spaces for blended learning using AA	7,7	19,2	29,9	26,1	14,2
The digital technologies available for learning ITA L2 in your school are	4,2	12,3	32,2	29,5	19,2
During Akelius Project implementation, the internet connection in your school was	6,9	6,5	24,1	28,4	32,2
During Akelius project implementation facilities and equipment (cables, plugs, …) necessary for tablets' operations were	3,4	11,1	21,5	28,7	33,3

3. Conclusions

Which conclusion(s) may be drawn from the evidence collected in the CA scheme application process? What can be said about the *contribution* the use of Akelius e-learning app (in a blended learning environment) was able to improve ITA L2 proficiency in primary school students involved in the project (and who participated in the ITA L2 reading and listening final tests)?

The evidence for answering these questions are the following: a) Akelius project actions (activities) and outputs[25] (source: Scale-up Report): they have been included in the Theory of Programme representation and are a key pre-condition for effects (beneficiaries' students' improvement in ITA L2 listening and reading proficiency); b) ITA L2 reading and listening tests results; c) the lists of the most relevant *assumptions-mechanisms* and *external factors/rivals* (as emerged from Sessions 1 and 2 with teachers' panel). This evidence must be combined in a kind of (Contribution) *story* so that they can tell us about Akelius e-learning app use *contribution* as defined above (see the scheme below).



The starting point of the *contribution story* is actually the Akelius e-learning app use arrival point that is, in our evaluation design, the effect of using the platform (as measured by the reading and listening ITA L2 test results compared to attended course-level[26]). This

[25] As described in the Scale-up Report.

[26] A proxy of single student ITA L2 proficiency before using Akelius e-learning app.

effect is that 94%[27] of students progressed in **listening** skills (by 1, 2 or 3 levels): focusing on the largest group (those who attended an A1 course), 63% improved by 2 levels and 33% by one; 91% of students improved their **reading** skills (by 1, 2, 3 levels): in the largest group (A1), 44% of students improved by one level and 49% by two. This means, to sum up, a relevant and wide-range improvement of ITA L2 reading and listening skills (as measured by the tests).

The Akelius project represents the second chapter of the story, implemented actions and achieved outputs (we focused on schools only[28]). Actions and outputs are two key-contents of the Akelius project's *Theory of Programme* and, especially outputs, a pre-condition for ITA L2 improvement of reading and listening proficiency in beneficiary students. Evidence from the Scale-up report (see Tab. 14) allows us to say expected activities have been implemented and related outputs have been produced.

Tab. 14. Activities and outputs generated by the project

ACTIVITIES	OUTPUTS
- **Identification of schools: YES (see Chap. 2 Scale-up Report)** - **Identification and recruitment of teachers: YES (see Chap. 3 Scale-up Report)** - **Teachers' training (for using AK Plat): YES (see Chap. 3 Scale-up Report)** - **Involvement of students: YES (see Chap. 4 Scale-up Report)** - **Distribution/activation of tablets: YES (see Par. 5.1.1 Scale-up Report)** - **AK app integrated use in dedicated ITA L2 out-of-class group or individual courses (Pre-A1/A0, A1, A2, B1); AK app integrated use in-class ITA L2 activities, individual or group (Pre A1-A0, A1, A2, B1): YES (see Chep. 5 Scale-up Report)** - **School-dedicated Helpdesk: YES (see Par. 1.2. Scale-up Report)**	- Public schools and OOS-settings involved in the project: **55 ICs (only schools) including 80 primary schools and 48 lower-secondary schools** - Teachers involved and recruited: **456** - Teachers training courses delivered: **21 editions** - Teachers involved and trained: **443** - Students involved (of which Ukrainian): **1036 (36% Ukrainian)** - Tablets distributed to students and teachers: **968 (774 to ICs)** - ITA L2 courses delivered (schools/OOS settings; by level): **373 courses completed of which: 34% pre-A1/A0 level; 40% A1; 17% A2; 9% B1**

The third chapter of the *story* covers the main *assumption-mechanism* couples underpinning Akelius e-learning app use in relation to ITA L2 proficiency improvement. Teachers' Sessions 1 and (especially) 2 identified the 5 couples that were effectively in action during platform use, ordered by relevance (see below). For our purposes, it is crucial that the 5 couples identified in Sessions 1 have been confirmed in Sessions 2 when they have been put in relation to ITA L2 test results (only the ranking of 3, 4, 5 couples was modified but not the list). Three important issues must be underlined:

[27] Net of missing answers and B1 course participants (see above for details).
[28] And not on OOS, not involved in the impact evaluation.

- couples 1, 2, 3 and 5 give teachers a key-role in assumptions-mechanisms implementation[29];
- couple 4 has students (their motivation, background, everyday use of ITA L2, …) as core-reference;
- teachers' key-role is also linked, in assumption-mechanism couples, to the most common schemes adopted in using platforms[30]. According to *the Scale-up Report (p. 22, Fig. 9), the most used schemes were In-group out-of-class (44%), Individual out-of-class (31% of total learning activities),* In-group or individual in-class (25%). This means that 75% (three-fourths) of total learning activities were out-of-class activities, of which 31% were individual and 44% were in-group.

These three focuses (teachers, students, Akelius e-learning app use schemes) must be matched with factors/rivals indicated in teachers' sessions, teachers' survey and schools survey.

Tab. 15. Assumption-mechanism couples in action during Akelius project (AA use)

Relevance	Assumptions	Mechanisms
1	Students are stimulated to use Akelius e-learning app by the richness and variety of its contents (especially in a blended learning environment) as well as by teachers **(whose supporting role is very important anyway)**	Blended learning based on Akelius e-learning app is supported and guided by the teacher(s) but at the same time offers students plenty of room for autonomous and personalized learning activities **also** based on their own interests and curiosity **as well as on ITA L2 proficiency level**
2	The use of Akelius e-learning app by Newly Arrived (in Italy) students (in a blended learning environment) improves their proficiency (skills, ability to communicate in ..., ...) in ITA L2	NAI students' use of Akelius e-learning app in blended learning pathways is consistent with individual learning styles and rhythms, supports individualized teaching and learning, **may** enhance the autonomy of students in defining and achieving their own learning outcomes
3	Teachers understand and appreciate the added value of adopting the Akelius e-learning app (and blended learning in general) and integrate the Platform use into their teaching strategies	The compliance of the Akelius e-learning app to the GRR model (Gradual Release of Responsibility: AA Handbook, p. 13) allows for a collaborative **and positive** learning environ-

[29] In Schools survey (N=50) a question was posed on "ITA L2 teachers prevailing profile *outside* Akelius project". Answers (more options were possible) indicated 46% for "Internal (paid) teachers with ITA L2 formal qualification", 62% for "Internal (paid) teachers without ITA L2 formal qualification", 32% for "External (paid) teachers with ITA L2 formal qualification". These specifications do not refer to teachers involved in Akelius project but will be included (see below) in Factors/rivals table (number 5 and 6).

[30] In Schools survey (N=50) a question was on "ITA L2 most common implementation schemes *outside* Akelius project". Answers (more options were possible) reported 84% of cases use "Out-of-class courses/groups during school-time", 54% "In-calls individual or group activities", 36% "Group activities out of school time" and 36% as well "Out-of-class individual activities during school time". These schemes are *outside* Akelius projects but may be useful for assessing how far/near to schools' practices were Akelius e-learning app more diffused schemes.

		ment among students/teachers which is appreciated by teacher(s) **and make students feel comfortable** ... [see assumption 3] The holistic approach of Akelius e-learning app and its key-principles (AA Handbook, p. 20) support students' learning in such a way that teachers ... [see assumption 3]
4	The structure and contents of Akelius e-learning app enhance the lessons (allowing for *blended learning* practices) and encourage students to learn ITA L2	Being alternative (to traditional learning platforms), interactive, rich in numerous and diverse multimedia resources, the Akelius e-learning app is able to enhance ... [see assumption 4]
5	The use of Akelius e-learning app in a blended learning environment is consistent with the key principles of (foreign) language learning	The key principles of foreign language learning (safe and *warm* learning environment; target-language modulation; focus on communication and practical activities; *scaffolding*[31]; blended learning; ...) are embedded in Akelius e-learning app and thus their adoption by teachers is made easier and more feasible

Based on the analysis so far, the contribution story would be the following:

- since Akelius project activities and outputs have been implemented and
- Akelius e-learning app key-assumptions and mechanisms (as identified in Sessions 1) have been effectively in action during platform use (as confirmed in Sessions 2)
- then Akelius e-learning app use could be indicated as the *cause* of primary school students' improvement in ITA L2 (reading and listening) proficiency (as measured by the tests, consistent with Akelius e-learning app contents).

But, since several rival factors/explanations (placed and operating *outside* Akelius project) have been – as normally is in any *social* projects - in force during Akelius e-learning app use, they must be included in the *story*. In the tables below (Tabb. 15 and 16) each rival is evidence-based and assessed in its being in force during Akelius e-learning app use to identify its degree of influence on ITA L2 final testing (very positive) results.

Tab. 15. External factors/rival explanations in force during AA use

External factors/ rival explanations	Teachers Sessions 2 ranking (N=16)	Schools survey (N=50)	Teachers' survey (N=261)	Degree of influence (on ITA L2 proficiency improvement)[32]

[31] Use of examples, paraphrasis, analogies.

[32] Delahais and Toulemonde, 2012. Expressed as: very high, high, moderate, low.

Students' daily use/exposure to ITA L2 outside the Akelius Project (at school, with friends, with parents, ...)	1	Rival not included in the survey	This rival was not in force (it had positive influence only for 17% of teachers, against 48% of them who rated it as marginal/low influence)	**This rival had a moderate (positive) influence on ITA L2 proficiency improvement**
Students' motivation in ITA L2 learning	2	Rival not included in the survey	This rival was strongly in force (66%); (Students') Parents awareness of ITA L2 learning importance (not in force: 28%)	**This rival had a high (positive) influence on ITA L2 proficiency improvement, acting not only externally but being also a consequence of AA use positive experience**
Student's background, i.e.: **- origin and mother tongue[33]** **- psychological and emotional state**	3	Rival not included in the survey	Rival not included in the survey	**This rival had a low influence on ITA L2 proficiency improvement (because students' background was generally distant from ITA L2[34])**
Other curricular or extra-curricular projects (not on ITA L2) involving the same students and/or teachers during the implementation of Akelius Project (but coordinated with Akelius e-learning app activities)	4	Rival not included in the survey	This rival was in force (42%)	**This rival had a moderate (positive) influence on ITA L2 proficiency improvement**
Teachers' motivation in using/supporting the use (by students) of Akelius e-learning app in a blended learning environment (also in innovative ways)	5	Principals' endorsement to Ak platform use (76%[35]) positively influenced teachers' motivation;	This rival was in force (51,5%); principals' endorsement (influencing motivation) was strongly in force (64%)	**This rival had a high (positive) influence on ITA L2 proficiency improvement; it acted not only as an external factor, but it has also been fed by colleagues and principals'**

[33] 36% Ukrainians; 10% Egyptians; 8% Bangladeshis; 8% Peruvians. In addition: "although 21% of the students were born in Italy, they expressed difficulties in the Italian language. Regarding those born abroad, 82% had arrived in Italy between 2018 and 2023 (the percentage is probably higher, but the information was missing for the group of 129 Ukrainian students involved in the 2022 summer courses). Of these, 67% were defined by the school as NAI students, newly arrived students in Italy who are completely non-Italian speaking and unable to use Italian L2 as a language of communication, or students who had been in school for less than 2 years. In addition, 333 students had special education needs (SEN)" (Scale-up Report, p. 20).

[34] This means that ITA L2 tests results have not generally been (positively) affected by students' (linguistic and cultural) background (therefore the positive results are marginally linked to this rival).

[35] Sum of 4 and 5 scores in answers (the same is for all the other shares of the two surveys).

				support as well as by AA use positive experience
Teachers' commitment (required) in the preparation and planning of the lessons using the Akelius e-learning app	6	See the cell above	Principals' endorsement (influencing motivation) was strongly in force (64%)	This rival had a moderate influence on ITA L2 proficiency improvement: see here above cell for the way in which it acted
Students' participation in other ITA L2 structured learning activities (during the implementation of the Akelius Project)	7	This rival was in force (58%)	This rival was in force (37%)	This rival had a moderate influence on ITA L2 proficiency improvement
Physical spaces availability and suitability (for ITA L2 courses, especially in primary schools)	8	This rival was strongly in force (68%)	This rival was in force (40%)	This rival had a high influence on ITA L2 proficiency improvement, allowing AA to be used in suitable spaces/areas (it acted also as a process factor)

Other additional external factors/rival explanations have been tested in Schools' and Teachers' surveys but they are not in the list of the 8 emerged from teachers' sessions as most relevant. However, they are presented below to have an overall picture of all the externals/rivals included in the evaluation exercise.

Tab. 16. Additional (to the 8 most relevant) external factors/rival explanations in force during AA use

Factors/rivals	Teachers Sessions 2 mentions	Schools survey (N=50)	Teachers' survey (N=261)	Degree of influence (on ITA L2 proficiency improvement)[36]
Well-working internet connection	3	This rival was strongly in force (76%)	This rival was strongly in force (61%)	This rival had a very high influence on ITA L2 proficiency improvement allowing AA to work properly
Teachers' skills in ITA L2 teaching (in a blended learning environment)	2	Not included in the survey	Not included in the survey	This rival had a moderate influence on ITA L2 proficiency improvement: on average teachers had the necessary skills

[36] Delahais and Toulemonde, 2012. Expressed as: very high, high, moderate, low.

Teachers' digital skills	1	Not included in the survey	Not included in the survey	**See the here above cell**
Tablets cables, plugs, technical equipment for tablets/AA use	1	Not included in the survey	This rival was strongly in force (62%)	**This rival had a high influence, allowing the use of AA**
Digital technologies/devices	1	This rival was strongly in force (62%)[37]	This rival was in force (49%)	**This rival had a high influence, allowing the use of AP**
School experience in delivering ITA L2 courses (outside/before Akelius project)	Not mentioned	This rival was strongly in force (60%)	This rival was in force (48%)	**This rival had a high influence, allowing schools/teachers to use AA in a suitable and fruitful way**
School experience in delivering ITA L2 courses in a blended learning environment (consistent with Akelius e-learning app use)	Not mentioned	Not included in the survey	This rival was not in force (9%)	**This rival had a low influence because schools seem not to have a relevant experience (before using AP) in teaching ITA L2 in a blended environment**
Average duration (in hours per student) of student's use of Akelius e-learning app (consistent with learning expected outcomes)[38]	Not mentioned	Not included in the survey	This rival was not in force (26%)	**This rival had a low influence on ITA L2 proficiency improvement (12 hours use per student on average is a small quantity)**

The conclusion of the *story* is that Akelius e-learning app use *contribution* to ITA L2 listening and reading proficiency improvement by primary school students (as measured by the final tests) appears to be consistent, visible and recognizable. In fact, the most relevant expected *assumption-mechanism couples* underpinning Akelius e-learning app use (in the framework of Akelius e-learning app project) have actually been *working* and *operating* during the project's implementation, leading to very positive and diffused results in terms of ITA L2 reading and listening proficiency improvement by primary school students involved in the project and tested. In addition, the majority of *external factors/rival explanations* in force gave their contribution as well in generating ITA L2 (reading and listening) proficiency improvement but without reducing to marginal Akelius e-learning app contribution. On this point, it must be clear that external factors/rival explanations' *role* in assessing Akelius e-learning app use *contribution* (since a CA approach has been adopted) must be identified by taking as *key evidence* the (very positive and diffused)

[37] Tablets have been donated by UNICEF as part of the project (and they will remain in schools' availability), in some instances the lack of adequate technology (for instance due to lack of enough tables to cover the overall need, fault of some functionalities of the app at times, etc.) was highlighted as a limit.
[38] 12 hours per student (Scale-up Report, par. 5.1).

improvement in ITA L2 proficiency by the tested students' population. On this basis (see Tabb. 15 and 16 above):

- the externals/rivals which supported the increase of ITA L2 proficiency and that, correspondingly, could reduce Akelius e-learning app use contribution (that is: students' daily use/exposure to ITA L2 outside the Akelius Project; other curricular/extra-curricular projects not on ITA L2 involving the same students/teachers during AA use; students' participation in other ITA L2 structured activities, during Akelius project; school experience in delivering ITA L2 courses outside/before Akelius project) have been in force mainly with a moderate influence on ITA L2 proficiency improvement;
- the externals/rivals which reduced the increase of ITA L2 proficiency and that, correspondingly, could increase Akelius e-learning app use contribution (that is: students' background; school experience in delivering ITA L2 courses in a blended environment; average duration in hours per student of Akelius e-learning app use) have been in force with a low (negative) influence on ITA L2 proficiency improvement;
- some external/rivals which supported the increase of ITA L2 proficiency (therefore similar to the first block) operated also as internal factors reinforcing both Akelius e-learning app use and ITA L2 reading and listening proficiency improvement. These factors, which have been in force with a *high* or *moderate* influence, are the following: students' motivation; teachers' motivation and commitment in using Akelius e-learning app (also in preparing and planning lessons); physical spaces availability and suitability; well-working internet connection; teachers' skills (digital and in teaching ITA L2 in a blended learning environment); tablets cables, plugs, technical equipment; digital technologies.

Annexes

ANNEX 1: SCHOOL QUESTIONNAIRE QUESTIONS RELATED TO IMPACT EVALUATION

a) How would you[39] define your endorsement to Akelius e-learning app use in your school?

Very weak/1	2	3	4	5	Very strong/6

b) During Akelius project implementation, have the same (or *largely* the same) students attended **other** ITA L2 courses in your schools?

Not at all/1	2	3	4	5	A lot/6

c) How would you define your school's experience in delivering ITA L2 courses (net of Akelius Project)?

Very recent and poor/1	2	3	4	5	Very consolidated and intense/6

d) Which statement **best** describes your school's usual practices in delivering ITA L2 courses **before** Akelius project (one answer)?[40]

	Yes	No
In class courses		
Out-of-class courses		
Individual courses		
Group courses		
Internal teachers (specialized/certified or not)		
External teachers (specialized/certified or not)		
Paid teachers		
Voluntary teachers		
Funded by the school		
Funded by external organisations (public or private)		

e) How would you describe, net of Akelius Project, the *quality* of digital technologies for learning in your school (workstations, computers, tablets, …)?

Very poor in numbers and outdated/1	2	3	4	5	Fully appropriate in numbers and updated/6

f) Has your school suitable physical spaces (classrooms, laboratories, …) for ITA L2 courses?

Few and not-dedicated/1	2	3	4	5	Many and dedicated/6

g) Has your school a generally well working internet connection and adequate facilities for tablets/computers operations (plugs, cables, …)?

Absolutely no/1	2	3	4	5	Absolutely yes/6

[39] School director.

[40] Divided in the 3 questions in the on-line version of the questionnaire.

ANNEX 2: TEACHERS' QUESTIONNAIRE QUESTIONS RELATED TO IMPACT EVALUATION

1) Focusing on students who **most** benefitted from ITA L2 courses using Akelius e-learning app, please answer the here below listed statements:

The average duration, in hours, of students' learning pathway (in blended mode with AP) was	Low /1	2	3	4	5	High/6
The combination of AP-based and face-to-face activities was generally	Poor/1					Good/6
Students' average motivation in learning ITA L2 was	Low/1					High/6
Teachers/colleagues' motivation in using AA in a blended learning mode was	Low/1					High/6
During Akelius Project implementation, students (attending the project) attended other ITA L2 courses (at school)	No one/1					Many/ 6
Students regularly use ITA L2 in everyday life outside school (in families, with friends, in other social situations, …)	Absolutely no/1					Absolutely yes/6
Students' parents are generally aware of the importance that their son/daughter learn ITA L2	Low/1					High/6
Students attending Akelius Projects have been involved, in the same period, in other curricular or extra-curricular projects **not related** to ITA L2	Marginally/ 1					Intensely/ 6
Your School-leader endorsement to Akelius Project has been	Low/1					High/6
Your school experience in delivering ITA L2 courses **before** Akelius Project was	Low/1					High/6
Your school experience in delivering ITA L2 courses **before** Akelius Project revealed consistent with AA use	Absolutely no/1					Absolutely yes/6
Your school has suitable spaces for blended learning using AA	Absolutely no/1					Absolutely yes/6
The digital technologies available for learning ITA L2 in your school are	Totally inadequate/1					Fully adequate/6
During Akelius Project implementation, the internet connection in your school was	Not working/1					Well working/6
During Akelius project implementation facilities and equipment (cables, plugs, …) necessary for tablets' operations were	Not available/1					Fully available/6

ANNEX 3: SCHOOLS INVOLVED IN THE EVALUATION SESSIONS

First round (May 2023)

Date	School
18.05.2023	IC 7 (BO) IC Borgoncini Duca (RM) IC Ciresola (MI) IC Copernico (MI) IC Fidenae (MI)
23.05.2023	Cooperativa AIPI (BO) IC Via Palestro (MI) IC Frisi (MI)
24.05.2023	IC A. Strobino (MI) IC Fermi (MI) IC Manin – Primaria (RM) IC Martiri della Libertà (MI) IC Olmi (MI)
25.05.2023	IC De Marchi (MI) IC Franceschi (MI) IC Manin – Secondaria (RM) IC Montalcini (RM) IC Via N. M. Nicolai (RM)
30.05.2023	D.D. Zola Predosa (BO) IC Anzio III (RM) IC Frisi (MI) IC Solidati Tiburzi (RM)
31.05.2023	IC 12 (BO) IC 4 (BO) IC 6 (BO)

Second round (November 2023)

Date	School
7.11.2023	IC Via Palestro (MI) IC Ciresola (MI) IC Copernico (MI) IC Franceschi (MI) IC Frisi (MI) IC Olmi (MI)
8.11.2023	IC 4 (BO) IC Ciresola (MI)
14.11.2023	IC 7 (BO) IC Anzio III (RM) IC Borgoncini Duca (RM)
15.11.2023	IC Martiri della Libertà (MI) IC Via N. M. Nicolai (RM)
16.11.2023	D.D. Zola Predosa (BO) IC De Marchi (MI) IC Fermi (MI)

FONDAZIONE ISMU
INIZIATIVE E STUDI SULLA MULTIETNICITÀ

The ISMU ETS Foundation is an independent scientific body that promotes studies, research, training and projects on mutiethnicity and multicultural societies, with a particular attention to international migrations.
ISMU works with institutions, public administration, the Third Sector, school and training agencies, businesses, international agencies and Italian and international scientific research centres.

The report is realized as part of the Akelius project promoted by UNICEF, in collaboration with the Akelius Foundation and in partnership with the ISMU ETS Foundation, to promote the Akelius e-learning app for teaching Italian L2 in primary and lower secondary schools.

Akelius

unicef

via Copernico 1 – 20125 Milano (Italia)
tel. +39 02 6787791 – ismu@ismu.org
www.ismu.org