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Ad-Hoc Query on 2023.6 Innovation in language learning

Requested by EMN Estonia on 3 February 2023

Responses from Austria, Belgium, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Slovakia, Slovenia, Spain, Sweden (20 in Total)

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1. BACKGROUND INFORMATION

Due to the war in Ukraine, Estonia like other EU countries has experienced a large influx of Ukrainian refugees. The Ukrainian refugees need social services, accommodation, adaptation programme as well as help with learning the local language. To address the increased need for teachers and language courses, Estonia is planning to set up new possibilities for e-learning.

Until now, Estonia has developed language programmes like Keeletee and Keeleklikk, where a person can individually learn Estonian language from levels A1-B1. However, learning with the help of these apps is not active learning, but rather passive learning. Additionally, the statistics show that the average person who participates in language courses within the national Settle in Estonia programme is 35 years old. This generation is keen to try virtual and augmented reality, but Estonia has not yet researched or piloted any such projects before. Therefore, the Estonian Ministry of Culture is interested in learning other EMN Member and Observer countries' experiences with virtual language learning, including using artificial intelligence (AI), virtual reality, and augmented reality.

Within this AHQ, we are asking countries' experiences and pilots of artificial intelligence which use for example speech recognition, computer vision, or feature, facial and object recognition. We also are keen on more developed AI teaching projects that concentrate on social intelligence that uses systems that recognize, interpret, process or simulate human feeling, emotion, or mood. For example, virtual teachers or learning assistants that are programmed to speak conversationally or even banter humorously. Similarly, we are looking for innovation in smart glasses devices that, while being worn, can give language tips, understand objects and translate them simultaneously or give language challenges. Lastly, augmented reality is understood in this context as interactive experience that combines the real world and computer-generated content that might include multiple sensory features, including visual, auditory, haptic, somatosensory and olfactory.

We would like to ask the following questions:

- 1. Has your country developed methods for language learning using artificial intelligence? YES/NO. If yes, please explain and if possible, please provide an example.**
- 2. Has your country piloted with virtual reality and augmented reality for e-learning your country's language? YES/NO. If yes, please explain and if possible, please provide an example.**

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3. If you answer yes to Q2, has your country made assessments on how cost-effective it is to develop e-learning tools that make use of virtual reality and augmented reality compared to traditional language learning? YES/NO. If yes, please explain.

4. Has your country made use of smart glasses projects for language learning? YES/NO. If yes, please explain and if possible, please provide an example.

5. If you answer yes to Q4, have you made assessments on how cost-effective it is to use smart glasses (project) when compared to traditional language learning? YES/NO. If yes, please explain.

6. If you answer yes to Q2, have you used these systems with Ukrainian refugees or other refugees to learn your official(s) language(s)? YES/NO. If yes, please explain.


We would very much appreciate your responses by **3 March 2023**.

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2. RESPONSES

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		Wider Dissemination ²	
	EMN NCP Austria	Yes	<p>1. In Austria, the Austrian Integration Fonds (ÖIF) offers online German classes, online exercises, and free materials on the language portal. The online exercises include Doodle clips (learning stories), an online vocabulary trainer, panoramic images, podcasts for language learning and short films. The materials provided on the language portal include audio clips, magazines, and posters.</p> <p>To our knowledge artificial intelligence methods for language learning have not been developed yet.</p> <p>2. To our knowledge no such measures have been taken.</p> <p>3. n/a</p> <p>4. To our knowledge no such measures have been taken.</p> <p>5. n/a</p> <p>6. n/a</p>

¹ If possible at time of making the request, the Requesting EMN NCP should add their response(s) to the query. Otherwise, this should be done at the time of making the compilation.

² A default "Yes" is given for your response to be circulated further (e.g. to other EMN NCPs and their national network members). A "No" should be added here if you do not wish your response to be disseminated beyond other EMN NCPs. In case of "No" and wider dissemination beyond other EMN NCPs, then for the Compilation for Wider Dissemination the response should be removed and the following statement should be added in the relevant response box: "This EMN NCP has provided a response to the requesting EMN NCP. However, they have requested that it is not disseminated further."



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	EMN NCP Belgium	Yes	<p>1. Yes. In Flanders (Dutch-speaking region), there are 2 projects from the "amai!" initiative (https://amai.vlaanderen/). This initiative aims to involve citizens in the development of artificial intelligence by bringing together citizens, domain experts and AI experts around current topics: climate & environment, mobility, health and work.</p> <p>1. "My Speech" is a language assistant for teachers in multilingual classrooms. The aim of the project is to provide targeted feedback to teachers. This helps teachers achieve language goals with multilingual students in secondary schools (aged 12-18). "My Speech" monitors pronunciation, intonation, pacing and language errors. The aim is to help multilingual students learn the language faster and better. More information: https://amai.vlaanderen/projecten/project2-taalassistent</p> <p>2. Live subtitles during lesson: the aim of this project is to help foreign-speaking students connect more quickly with their classmates by subtitling lessons live in Dutch. The live subtitling is done by an AI speech-to-text application on the student's laptop. The combination of written and spoken language makes it much easier for students who have not yet fully mastered Dutch to follow along. More information: https://amai.vlaanderen/projecten/project-werk</p> <p>2. No.</p> <p>3.</p> <p>4. No.</p> <p>5.</p> <p>6.</p>
	EMN NCP Croatia	Yes	<p>1. Croatia has not officially developed nor implemented AI tools for learning the Croatian language, but it is not excluded that language schools use different AI tools while implementing their programmes.</p>


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			2. No. 3. No. 4. No. 5. No. 6. No.
	EMN NCP Cyprus	Yes	1. No. Although VR & AR have been developed in teaching and learning, there is no related development in teaching Greek as a second language. 2. No 3. N/A 4. N/A 5. N/A 6. N/A
	EMN NCP Czech Republic	Yes	1. No. 2. No. 3. N/A

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			<p>4. No.</p> <p>5. N/A</p> <p>6. N/A</p>
	EMN NCP Estonia	Yes	<p>1. Estonia is steadily moving towards using more artificial intelligence for language learning. For example, the Estonian Language Institute is developing features like speech recognition system, semantics analysis tool, as well as a hate speech detector. Furthermore, the Ministry of Economic Affairs and Communications is developing national virtual assistant Bürokratt that might be able to support virtual language learning in the future.</p> <p>2. Estonia has piloted with virtual reality projects in the areas withing the field of the Ministry of Social Affairs. For example, there is a virtual reality tool used for learning water safety and role-play tool for preparing for catastrophes and national emergencies (see more: https://justcreative.eu/projects/Maru/games).</p> <p>3. No. However, we are aware that a language spot for a newly arrived migrant costs a bit over 500 euro, while virtual reality glasses cost the same. It is also known that the Government of Estonia via the Ministry of Culture is able to offer 15 000 language learning spots, while there is additional need for spots for 25 000 people, and not enough human resources to address this need.</p> <p>4. No. However, there are some minor pilots in schools, but nothing that is known or tested on a governmental level yet. Additionally, there has been decision to agree and finance such pilots per the government's decision to implement the transition to Estonian-language education (there are still Russian schools in Estonia). Those schools lack Estonian teachers as well.</p> <p>5. No.</p>


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			<p>6. We offer Ukrainian refugees our virtual learning platform Keeletee and Keeleklikk, where a learner can independently watch videos, practice speaking and writing with a help of a computer. However, Keeleklikk can sometimes be a bit passive, dull variant, where a person sits in front of computer while there are many playful elements which can support long and interesting learning like funny grammar explanations acted out by actors. One needs to consider that the average newly arrived migrant in Estonia is 35 years old, i.e. open to use innovative digital methods for language learning.</p> <p>More about Keeleklikk and Keeletee: https://www.keeleklikk.ee/index_en.html</p>
+	EMN NCP Finland	Yes	<p>1. Yes. There has been some pilot experiments, for example, at the University of Lapland (Q2). The development of artificial intelligence applications for language learning is still not very advanced in Finland.</p> <p>Mainly there are digital language courses for language learning in Finland, for example Yleisradio (The Finnish Broadcasting Company) has the Ylen Kielikone -app aimed at immigrants (https://yle.fi/aihe/kielikoulu-sprakskolan#english). Immigrants can watch programs in Finnish and Swedish with subtitles. If there is a word in the program, which the person does not understand, the word can be chosen by clicking the right language.</p> <p>In the Kielibuusti-project of higher education institutions (https://kielibuusti.fi/kartoitustabule/), Finnish and Swedish language training is developed to be more effectively met by the language skills needs of those who are recruited to Finland and those international experts who are already in the country. One of the project's sub-units develops, tests and investigates methods that use digital technology to enhance teaching and learning. The project has collected links and basic information about digital materials for teaching the Finnish language and for self-study. The focus is on the materials suitable for self-study.</p> <p>Other examples of open digital learning environments are Aalto Open Learning's Intrudoctory Finnish (https://openlearning.aalto.fi/course/view.php?id=59), the Puhutsä suomee (https://sites.google.com/view/puhekielikurssi/puhekielen-verkkokurssi) -online course for learning spoken language, and the Finsku (https://reactored.com/finsku-fi/) learning environment in Ukrainian.</p>



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			<p>2. Yes, there has been some experiments, for example the Lapland University of Applied Sciences and the Oulu University of Applied Sciences have had a joint project KulttuuriOsaaja (https://www.kieliverkosto.fi/fi/journals/kieli-koulutus-ja-yhteiskunta-m...) 2020-2022, in which international nursing students were practicing Finnish conversational skills in virtual reality.</p> <p>3. No.</p> <p>4. Yes. See answer to Q2. The Lapland University of Applied Sciences and the Oulu University of Applied Sciences have had a joint project KulttuuriOsaaja 2020-2022, in which international nursing students were practicing Finnish conversational skills in virtual reality.</p> <p>5. No.</p> <p>6. Yes. In Finland, there are mainly only digital online language courses for immigrants. Finsku (https://reactored.com/finsku-fi/) is an open digital learning material for Ukrainians to study Finnish. It contains the basics of the Finnish language and is suitable for everyone who wants to improve their language skills, for example for living, studying and working in Finland.</p>
	EMN NCP France	Yes	<p>1. NO. France has not developed any methods for language learning using artificial intelligence for language training as part of the Republican Integration Contract implemented by the Ministry of the Interior for the benefit of newcomer foreign nationals.</p> <p>2. NO. France has not piloted with virtual reality and augmented reality for the language training as part of the Republican Integration Contract implemented by the Ministry of the Interior for the benefit of newcomer foreign nationals.</p> <p>However, projects using virtual reality have been proposed by operators or associations (National Agency for Adult Vocational Training – Agence nationale pour la formation professionnelle des adultes, League of Education</p>


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			- Ligue de l'enseignement, for example) to facilitate learning French in a professional context. 3. N/A. 4. NO. 5. N/A. 6. N/A.
	EMN NCP Germany	Yes	1. No, Germany has not developed methods for language learning using artificial intelligence. 2. No. 3. n/a 4. No. 5. n/a 6. n/a
	EMN NCP Hungary	Yes	1. no 2. No 3. -

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			<p>4. No</p> <p>5. -</p> <p>6. -</p>
	EMN NCP Italy	Yes	<p>1. Yes, it has.</p> <p>The Ministry of Education and Merit is cooperating in the EU project called "AI4T - Artificial Intelligence for and by Teachers" promoted by the European Commission within the framework of the European Digital Education Action Plan 2021-2027.</p> <p>The project aims to provide teachers with basic knowledge of Artificial Intelligence in order to promote its positive, conscious and ethical use in professional practice, and to inspire the design and implementation of teaching activities in the field of digital education, in line with the NRRP investment lines "New skills and new languages", "School 4.0", "Integrated digital teaching and training for the digital transition of school staff".</p> <p>The project sees the collaboration of the Italian CNR- 'Istituto per le Tecnologie Digitali' and 'INDIRE', and brings together in partnership 17 institutions including the Ministries of France, Ireland Slovenia, Luxembourg and Italy, as well as Universities and Research Institutions. The project will involve about 350 schools in Europe, 100 of which in Italy.</p> <p>The project is aimed at schools in the second education cycle and envisages the participation of at least four teachers per subject area (2 for English language and 2 for mathematics or another STEM subject) who teach in classrooms of students between 15 and 17 years old (second, third or fourth years). As part of this action, experiments are being carried out in using AI in language learning.</p> <p>In addition, an Erasmus + K3 project involving this Ministry is highlighted, the link to which is provided below. https://scuoladigitale.istruzione.it/scenari_cpt/artificial-intelligence-for-and-by-teachers-ai4t/</p>



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			<p>2. Yes, it has. As part of NRRP-funded actions, Italian educational institutions have acquired many technologies for the use of virtual and augmented reality in different disciplines, including languages. Italian schools, which have educational independence, organise many activities making use of these technologies, as envisaged in the School 4.0 Plan, which provides for the establishment of immersive and virtual reality environments within each school.</p> <p>3. No, it has not. Evaluations are in progress.</p> <p>4. No.</p> <p>5. N/A</p> <p>6. Italian schools have welcomed about 30,000 students from Ukraine since the beginning of the war. Language learning activities are autonomously organised by each school as the national law stipulates. All Italian schools are also able to use artificial intelligence tools in language learning, but the answer to this question presupposes a specific survey, which has not yet been conducted.</p> <p>In any case, it should be noted that for the reception of Ukrainian students, the Ministry has created a special platform "Ukrainian educational emergency", which is also aimed at providing operational guidance for students to continue their education and studies.</p> <p>Please find below the relevant link:</p> <p>https://www.istruzione.it/emergenza-educativa-ucraina/</p>
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	EMN NCP Latvia	Yes	<p>1. No (please see detailed answer down below). There is only online self-examination tool developed in 2021 for citizenship acquiring procedure (naturalization). Citizenship procedures - Electronic self-examination tool, which includes the tasks of verifying the proficiency of the language and verifying knowledge (the content of the knowledge test consists of the State anthem text, the foundations of the history and culture of Latvia, the basic rules of the Constitution of the Republic of Latvia). In addition, one part of the knowledge check is the task of the national anthem that the applicant may choose to perform, either in written form or, thanks to the automatic speech recognition solution (AI based solution) developed by Tilde, to make the hymn text spoken and to receive the text entered/spoken in accordance with the hymn text by displaying the transcript of the spoken text with the mistakes description.</p> <p>2. No.</p> <p>3. N/a</p> <p>4. No.</p> <p>5. N/a</p> <p>6. N/a</p>
	EMN NCP Lithuania	Yes	<p>1. No</p> <p>2. No.</p> <p>3. N/A</p> <p>4. No</p>


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			5. N/A 6. No
	EMN NCP Luxembourg	Yes	1. No. Luxembourg has not developed methods for language learning using artificial intelligence. 2. No. 3. N/A. 4. No. 5. N/A. 6. N/A.
	EMN NCP Malta	Yes	1. No 2. No 3. 4. No 5. 6.




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	EMN NCP Netherlands	Yes	<p>1. No, the Dutch Government has not developed methods for language learning using artificial intelligence. Civic integration is in the Netherlands not part of public education, civic integration courses are provided by education institutions operating in the free market. They must have a quality certificate to be allowed to offer courses to persons that are subject to obligatory civic integration (when these courses are paid from public resources). To persons that are subject to obligatory civic integration (if paid from public resources), schools may offer online courses under certain conditions, but at least half of the course should take place in a physical environment.^[1] Examples of online components are online learning environments,^[2] online assignments,^[3] e-learning,^[4] and a digital language lab.^[5]</p> <p>^[1] Information provided by the Ministry of Social Affairs and Employment on 16 February 2023. ^[2] University of Groningen, 'Language Centre', https://www.rug.nl/language-centre/e-learning/online-dutch/?lang=en, last accessed on 14 February 2023. ^[3] Blik op Werk, 'Taal Leeft!', https://www.blikopwerk.nl/zoeken/taal-leeft, last accessed on 14 February 2023. ^[4] Blik op Werk 'Opleidingscentrum ETC', https://www.blikopwerk.nl/zoeken/opleidingscentrum-etc, last accessed on 14 February 2023. ^[5] Blik op Werk, 'Vrije Universiteit Amsterdam', https://www.blikopwerk.nl/zoeken/vrije-universiteit-amsterdam, last accessed on 14 February 2023.</p> <p>2. No, the Netherlands has not piloted with virtual reality and augmented reality for e-learning Dutch.</p> <p>3. N/A</p> <p>4. No, the Netherlands has not used smart glasses projects for language learning.</p> <p>5. N/A</p> <p>6. N/A</p>
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	EMN NCP Slovakia	Yes	1. No. 2. No. 3. NA 4. No. 5. NA 6. NA
	EMN NCP Slovenia	Yes	1. No. 2. No. 3. / 4. No. 5. / 6. /
	EMN NCP Spain	Yes	1. No 2. No

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			<p>3.</p> <p>4. No</p> <p>5.</p> <p>6.</p>
	EMN NCP Sweden	Yes	<p>1. No. Swedish language training for this target group is performed by a large number of different stakeholders, primarily from civil society (Study associations, so called "Folk High Schools" etc.) and it is up to the individual provider to decide how the training is performed and organised. The two primary Swedish language training options, "Svenska från dag ett" (Swedish from day one) and "Vardagssvenska" (Every Day Swedish) are offered online by some providers. To the best of our knowledge there are no providers developing or using artificial intelligence per se. The Swedish National Council of Adult Education, an umbrella organisation, confirmed there were no such examples.</p> <p>2. No. However, on a more general level, we received information from stakeholders that there were examples of use of chat bots in "Swedish tuition for immigrants" (Svenska för invandrare, SFI) and about an ongoing project conducted by the Study Association "Sensus". The project aims at developing a language tool for Romani (recognised minority language) in the form of an interactive training video to facilitate spelling in Romani. It aims at developing a tool that can determine which written words and letters correspond to oral speech with a view to simplify the transposition from oral to written language. It will focus on identified challenges in spelling. There is no standardised spelling for Romani.</p> <p>3. N/a.</p> <p>4. No.</p>

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			5. N/a.
			6. N/a.
