AFT

Intellectual Output 1: Report on the SLS training objectives

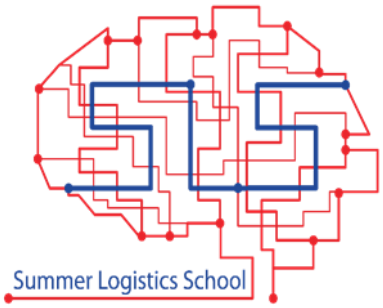

Table of contents

Introduction

The SLS program corresponds to a complementary training session of two weeks, that will take place in summer 2019 in Lubjana, Slovenia. The targeted public is both students and teachers, and more globally anyone interested in Transport and Logistics. This final report of the second activity of the Erasmus + Summer Logistics School program was prepared under the coordination of AFT, with the participation of all stakeholders in the project. Its purpose is to summarize all the sub-activities carried out under activity 2, which is the definition of SLS training objectives.

As part of activity 2, we first defined the EQF level 4 diplomas to be analyzed in the four partner countries Croatia, France, Italy and Slovenia, and then collected the data in collaboration with the partner schools. In order to analyze the training offer, we used two tools: the SWOT, which allows to detect the strengths and weaknesses of an element (Strenghts, Weaknesses, Opportunities and Threats); and the KSC, which define the Knowledges, Skills and Competences required for a given job position, in this case for the positions to which the degrees that we have analyzed lead.

Following this phase of analysis of the training offer, we carried out surveys in each of the project member countries by interviewing professionals, managers and HR responsibles. The purpose of these surveys was to define, for the positions covered by our program, which gaps could be identified by companies for new entrants into the profession.

This final report arrives at a third stage: based on the weak points of the current training offer and on the points of improvement indicated by the companies, it will define the main topics that the Summer Logistics School training program will have to address.

I. Lacks of actual training offer in partners countries

In this first part, we will summarize all points that have been identified as weaknesses in the actual curricula in the four partner countries, both for logistics and transport.

A. Practical aspects

The current trainings approach the problems of the world of transport and logistics in a too theoretical way, with little or no practical implementation of the theoretical knowledge taught during courses. Croatian and Italian partners indicated that they had little means to achieve this goal, because they do not have, for example, specialized rooms, or simply adequate equipment. Croatian partners have also highlighted the fact that, for example, storage is difficult to teach because it is too theoretically discussed in the materials that are available for teachers.

B. Simulation aspects

Today, the world of transport and logistics is largely computerized, and professional software has emerged to facilitate the processing of operations, whether in transport (transportation management systems) or logistics (the warehouse management systems). As a result, it seems absolutely necessary that every worker in the sector has a minimal knowledge of these programs. These software tools are currently little discussed in the member countries of the project. Several explanations emerge; on the one hand, this is due to the complexity of these systems, which are sometimes even not mastered by the teachers (indicated by French curricula experts); on the other hand, this issue can be due to a lack of financial means, as indicated in the Italian report.

C. Being up to date

With the advent of computing, and even more since the Internet boom in the 2000s, innovations are jostling in the world of logistics and transport. In parallel with technological developments, there have also been changes in methods and processes. All the partners agreed that the course materials are sometimes out of date, and not in line with the practical realities of the jobs concerned. It appears necessary that the supports are regularly updated, taking into account the evolutions of the sector.

In the same context, it is also necessary that the teachers are trained regularly and aware of technological evolutions and changes in the processes used. This issue needs to be covered by SLS through a specific module addressing teachers.

D. Orientation of curricula

Problems were highlighted with regard to the orientation of the training. Some of the partner country trainings have been identified as sometimes too subject-oriented. For example, in the case of transport, training is too geared towards road transport in the French case. In the case of Slovenia, it has been shown that transport education depends on the application of training schools and that some modes of transport can be promoted to the detriment of others. Regarding the orientation of logistics education, it was pointed out in France and Slovenia that education was too focused on the function of storage, ignoring the teaching of the supply chain, which is however vital to understand the overall logics of the transport and logistics sector.

E. Languages

In France as in Italy, it was identified that the knowledge of English was too weak. What is really missing is the vocabulary specific to the transport and logistics sector. In a world in which international exchanges are daily, it is very important that people are able to exchange in English. This is all the more true in transport and logistics, as it concerns the operational treatment of economic exchanges, and today trade is not limited to one country but is transnational. It is common today that a truck driver does not speak the language of his place of delivery, or that the documents are exclusively written in English. It is therefore vital that new entrants in the transport and logistics sector have a minimum level of English.

F. Teaching methods and assessment

We have been able to identify great similarities in teaching and evaluation methods in all partner countries. As far as methods are concerned, we have noticed that the almost exclusive teaching method is the direct one, ascendant teaching. This mode of teaching is materialized by lectures given by teachers, students taking notes.

The method of evaluation is the corollary of the teaching method: it is usually written or oral examinations to check the theoretical knowledge of the students.

With regard to teaching methods, the observation is that the one applied is not sufficiently participative for the learners. They receive information, which they must record and learn by heart. More participatory methods would have the advantage of creating interactivity in the courses, and potentially generate more interest among students. Similarly, the magisterial teaching mode is not conducive for the implementation of simulation of practical activities.

With regard to the evaluation method, it is problematic that it allows little or no verification of the student's operational capacities. This is more feasible with methods such as professional situations, which allow checking the student’s professional abilities and reflexes.

G. Work placement

As far as the internship periods are concerned, all partners agreed that they are too short, and that trainees are often restricted to minor tasks, such as making coffee, storing, or cleaning. It is very problematic, as the internship is an opportunity to put into practice the theoretical knowledge learned in class. Ideally, there should be incentives for companies to take trainees (state bonuses, tax exemptions or other solutions exist), but it would be necessary to have more control of the activities carried out during the internship, potentially by marking the efficiency of the student in a professional context.

II. Lacks of skills identified by companies interviews in partner countries

This part is the summary of the global analysis of the interviews that were done by all partners with companies from the sector in order to learn more about their needs and to define existing gaps between the training offer and the skills needs of companies. This paragraph is separated into two parts, the first one reporting on the outcomes from the interviews regarding transport activities; the second one concentrates on logistics.

A. Transport

a) Drivers Management

Regarding road transport, the remark made in relation to novice traffic officers is that they have difficulties to properly manage the team of drivers for which they are responsible. The animation of drivers is an important facet of the mission of the traffic officer. This is probably the most complicated competence to achieve, because it requires being able to be firm at times, and more flexible in other occasions. Companies in Italy or France have insisted that operational management should be approached in a more intense and practical way so that newcomers arrive prepared to fulfill their missions.

b) Use of sectoral IT tools

The intermediary report on company interviews has allowed us to see that, overall, new entrants into the labor market have a good knowledge of basic IT tools. Basic computer science means knowing how to use a computer (mouse, keyboard), but also searching the internet, or using Word and Excel from the Office package, in basic functions. Companies have often mentioned that mastering these tools is a prerequisite for hiring.

While basic computing is mastered, it is the knowledge and know-how regarding professional software that is lacking. The main type of professional software used in the transport business is the transport management system, which allows managing the transport activity from A to Z. Even though companies often reform internally the newcomers to the specificities of their transport software, they require that new recruits at least know how to use the basic functions of such software.

c) Adaptability to new trends and processes

As we pointed out in the first part of this report, the transportation sector is constantly changing, and new methods, processes and tools are regularly emerging. This innovation is beneficial for the companies because it allows a priori to be more efficient. It appears from company interviews that traffic officers often have difficulties in modifying their modes of operation, and are often reluctant to novelty. This situation is doubly problematic. On the one hand, they are often the first users of the novelties. On the other hand, they should play the role of facilitators for the team of drivers and are supposed to implement these innovations, which means not only to control them, but also to promote them in their team, which often includes individuals reluctant to novelty as well. Companies therefore advise that training should teach future professionals to question their tools and methods of operation, in order to best prepare them for the realities of the world of work.

d) Dealing with specificities

The traffic officer organizes transport missions. Globally, he has the skills and knowledge in order to perform his missions. Nevertheless, companies have pointed out he lacks skills in dealing with specificities, such as dangerous materials transportation, or controlled temperature transports. Furthermore, he often has to deal with web portals, different from one client to the other. Therefore, the ability to deal with specificities is crucial in transport, and should be deepened more in transport education.

e) Differentiated communication

The traffic officer, by his function, must exchange with interlocutors that are very different one from each other. He must of course interact with his team; indeed, he is the one who organizes activities and missions, and gives instructions to his team. He also exchanges several times a day with his clients; not only for order taking, but also for hazard management and after-sales services.

He must exchange with very different interlocutors, which implies a different communication in its form. Indeed, the traffic officer as a representative of the company cannot afford to trade with a customer in the same way as he would with a driver: this point was specifically emphasized in both the Italian and French report. Companies have alerted us on this point, and on the low capacity for new hired persons to adapt communication to their audience. This skill appears vital.

B. Logistics

a) Application of theoretical knowledge into practice

This remark is common to all reports, and is valid here as it was with regard to transportation. Newcomers to the profession are considered to have theoretical knowledge bases without being able to apply this knowledge in a professional context. This poses a problem for companies as they have a need for professionals in the sector, and not theoreticians. Companies advise us to bring more practical knowledge and know-how useful to the company.

b) Order processing: good supports and methods Inventory Management

This remark is very concrete and related to the core business of warehousing logistics, namely order preparation. Although new hires have a good knowledge of warehouses, their function and rules, they have little practical capacity, especially when it comes to order picking.

Order preparation obeys general rules that apply globally everywhere. For example, the order picker must be able to choose the mean (pallet or parcel) most suited to the volume of the order he has to prepare. He must also be able to arrange the various elements of the command in a logical order to ensure the integrity of the objects. Thus, he must logically start with the largest and heaviest objects, to finish with the smallest and lightest. Finally, the third essential aspect of order preparation, he must be able to determine the optimum packaging of the order which must be just necessary: not too little, so that the order can arrive in good condition safe; not too much, so as not to waste unnecessary packaging material which is a cost for the company. Those general rules could be seen in the SLS Program together with a practical exercise on order preparation.

As far as order processing is concerned, we will develop and teach a module for using hand scanners. Indeed, this kind of tool is used all day long by pickers, and its use has been highlighted as not enough mastered. Therefore, we will address the hand scanner handling skill as a topic for the SLS Training Program.

c) Sectoral ICT tools

Even if computer tools such as Word or Excel in basic functions are mastered, this is not the case for software tools specific to the logistics sector, such as the warehouse management systems (WMS). Today, this kind of tool is very widely used in warehouses, so it is vital that new recruits have a minimum knowledge of it. Indeed, logistic professionals must use a WMS daily, and it would be highly disabling if they did not know how to use it. The Slovenian partners have strongly emphasized this point, as have the Italian partners. The difficulties in this respect are numerous: the teacher must not only be able to teach the use of these tools (which supposes that he knows how to use them himself), but there must also be the possibility of using a license from a software publisher, which is sometimes problematic because of the huge costs, as indicated in the Italian report.

d) Waste Management

The treatment of waste was mentioned in the Slovenian report. For the logistic operators it consists in knowing how to put in practice the policy of waste management defined by the company. There are financial incentives (state aid, tax cuts, etc.) to encourage companies to sort waste. The waste in the logistic environment is generally cardboard, wood and plastic. The greater the activity of the company, the more it will produce waste, and the more it will be interesting for it to proceed with this sorting to upgrade the waste, because it can get a financial return (this waste can be recycled and reused to produce other objects).

III. Objectives of the SLS Training Program

Taking into account the results of the analysis of the existing training offer and the skills needs of the companies, we recommend including the following training objectives in the Summer Logistics School training program.

A. Target groups of the SLS training

The SLS training will answer the lack of up-to-date materials and knowledge for both, students and teachers.

- Module for Teachers:
  - Innovative teaching methods
  - Up-to date knowledge (through presentations of updated literature for teachers: books, articles, etc.)
- Modules for students and anyone else who might be interested in SLS topics (workers, etc.):
  - Theoretical up-to-date knowledge
  - Practical exercises to acquire professional competences

All the modules will be prepared for both, teachers and learners which means that we will provide them in two different levels of depth of knowledge and understanding.

- Basic level for students to enable them to execute the corresponding task
- More advanced level for teachers and trainers to update them with latest evolutions and technologies and enable them to acquire background knowledge in order to better teach the topics to their learners afterwards

B. Objectives regarding the content of the training program

a) Transport

i. Management

One aspect that the SLS program should address is management. It is too often approached from a too theoretical point of view, and the students arrive therefore little prepared for the effective management of a team. We consider in the same way that we should insist on communication in a professional context, which must be nurtured, especially when there is a relationship with clients.

This topic can be linked to:

- The use of a TMS system
- Role plays to train on communication with colleagues, drivers, customers, etc.
- Specificities of platforms used by customers
- Practical use of English in a professional context

ii. Dealing with practical subjects: putting learners in professional situations

It came out that theoretical knowledge is rarely lacking for those job applicants who have graduated. However, they sometimes have difficulties to put this knowledge in perspective and in relation with the reality of professional situations and to apply it concretely in order to carry out a specific task or to find a solution for a problem. This is for example the case of students who know the transport documents and their usefulness but do not know how to fill them. Thus, a practical exercise on the filling of transport documents should be included in the SLS program. Another aspect which was named several times is the focus on road transport and the lack of dealing with the other transport modes. A theoretical revision of this topic should thus be included in SLS together with a practical activity on intermodal transport for example.

In general, we consider that dealing with very operational issues is vital in the SLS program.

iii. Sectoral IT Tools: use of simulators

All consulted persons agreed, both on the training and business side, that newcomers to the transport world have little control over sector specific software such as TMS. Today, as the operation of the transport is highly computerized, it is very important that new entrants to the profession have a minimal knowledge in this area. For these reasons, it would be ideal for the SLS program to be an opportunity to learn how to use such tools. It remains to be discussed if this will be feasible, as we do not have a license to use or a software company as a partner in the project consortium. However, we might be able to benefit from the pedagogical simulation tools that are currently being developed in the framework of another Erasmus+ project called SIMULTRA. Indeed, two partners involved in the SLS project are also participating in SIMULTRA and could care for the cross-fertilization and exchange of results.

iv. Transport specificities

People who arrive at a transport company have a global knowledge of the organization of transport operations. They know how to match the means that are available to the customers' needs and how to manage hazards and incidents that may occur. What they lack is more often the ability to manage specificities, as for example, the management of hazardous materials transport, or the management of temperature-controlled transport. What they also lack is the ability to manage customer specificities, such as the procedures that carriers may have to follow (such as database intelligence on customer web portals) in order to obtain regular freight from a given customer. These also very practical issues need to be addressed during the SLS program.

v. Practical use if English in professional situations

As said above, it was identified that the knowledge of English is often too weak. The context of the SLS training program is perfectly adapted to improve English during the different activities since learners come from different countries and will need English to communicate with each other.

b) Logistics

i. Additional theoretical input

It was noted by several partners that the topics of the general Supply Chain and the organization of warehouse activities is only barely covered by the existing training programs. We therefore suggest that these topics should be included in the SLS program, at least as an introductory revision module.

ii. Dealing with practical subjects: putting learners in professional situations

As in the case of transport, theoretical knowledge is rarely lacking for those who have graduated. However, they sometimes have difficulties to put this knowledge in perspective and in relation with the reality of professional situations. This is for example the case of students who know globally the order processing in a warehouse, but fail to apply their knowledge in very practical situations of order preparation. Besides order preparation, another competence that was listed as weak or missing is the correct loading and unloading. The lack of specialized classrooms was often given as a reason. The SLS project should therefore develop activities or exercises that allow carrying out loading and unloading operations using cheap or "every-day" materials to be easily implemented. It would be great to have a school store with shelves and be able to operate all areas of a warehouse. AFT has Log & Track educational simulation tool for warehouse management, we can get in touch with the experts if agreed. The ideal scenario would be to have a theoretical part first in a classical class room and then put into practice right away in the school store.

A topic that could be addressed is security. We can obtain cards that represent accident situations. Learners must first identify the possible accidents and then find solutions to avoid them by adopting the right reflexes. Another concrete example is the management of driver safety (sometimes involved in a third company for loading or unloading) within a warehouse.

In general, we consider that dealing with very operational issues is vital in the SLS program.

iii. Sectoral IT tools: use of simulators

As for transport activities, has all consulted persons agreed, both on the training and the business side, that newcomers to the transport world have little control over sector software such as WMS. Today, as warehouse operations are highly computerized, it is very important that new entrants to the profession have a minimal knowledge in this area. For these reasons, it would be ideal for the SLS program to be an opportunity to learn how to use such tools. It remains to be discussed if this will be

feasible, as we do not have a license to use or a software company as a partner. As mentioned above, cross-fertilization with the SIMULTRA project could be possible to use the simulation tools that are currently being developed within this project.

iv. Order Processing

We were able to identify through company interviews that an important theme to address is the order preparation. By addressing this topic, we could bring very practical skills and competences to students.

v. Inventory Management

The topic of Inventory Management also needs to be addressed in the SLS program. It has the advantage of being a very operational subject, and is vital for a warehouse to ensure the accuracy of its stock and the fact that there is a match between the computer stock and the physical stock.

vi. Practical use of English in professional situations

As for the transport activities, it was also identified for logistics that the knowledge of English is often too weak. The context of the SLS training program is perfectly adapted to improve English during the different activities since learners come from different countries and will need English to communicate with each other.

C. Methodological Objectives

a) Up to date theoretical knowledge

Since the lack of up to date knowledge was a common remark in partner countries, the SLS program will provide up to date materials, which will be used during the SLS sessions. Eventually, such materials will be used afterwards in other contexts (training in companies, sessions of information about the transport and logistics sector…).

b) Use of case studies

One of the ways of teaching that we can consider is the use of practical cases to which the students should find solutions. We could thus verify their reflexes in a given situation, and discuss the answers in the group to determine which the best solution to a given problem was. This approach has the

advantage of motivating the learners to reflect on their own and then allow a synergy of group to find the best way.

c) Role play and smart games

We can also consider role plays and smart games, which have the advantage of being fun while putting the students in a professional situation. One could imagine that the role plays or smart games are done in small groups, and then possibly presented to the whole group, so that it is possible to debrief the positive and the negative points of each realization.

It will be important that these activities are easy to implement using cheap and "easy-to-acquire" equipment and materials. This will allow teachers transferring them into their "normal" training courses after the end of the SLS project and thus ensure the exploitation of our results.

d) Induction method

We could imagine putting the students in the context of carrying out a task, ideally very practical. At the end of the realization of this task, a third student (who would not have intervened in the realization) would be asked to judge the performance. Depending on the good or the bad realization, we could explain what were the good points and those to improve, possibly by recalling the theory.

e) Evaluation methods

Since the SLS learning activities and exercises will be much more interactive and practical, the SLS partners also need to put in place new methodologies of assessment that focus more on the evaluation of operational skills and competences than on theoretical knowledge. When developing simulation and work-based learning activities, the SLS partners will have to include this aspect in their work.

We should also teach the trainers on how to measure the learning outcomes of the activities that they propose during their lessons. The definition of Learning Outcomes can help teachers to structure their lessons:

- What do I want the students to know/to be able to do after my lesson?
- How can I achieve this?

f) Company visit(s)

All partners noted that work placements are too short in general and sometimes not based on activities linked to the qualification. Unfortunately due to the restricted period of the SLS training, it will not be possible to organise real work placements. However, it could be interesting to organise one or several company visits in order to deepen the understanding of the learners and mix different ways

and methods of learning. Ideally find a company that has specificities, such as dangerous materials, controlled temperature. The company visit could also be an opportunity to make an inventory by the learners.

g) Blended Learning

Blended learning is a mix between traditional teaching (magistral lectures) and digital learning. It will be useful because digital tools can help raising interests of students, and can be used for demonstrations. Therefore the SLS will apply such a method.

Conclusion

Thanks to the active participation of the project partners, we were able to gather, on the one hand, elements relating to the supply (report on the current training offer) and to the demand (report on the interviews conducted in companies). This analysis of supply and demand has identified gaps on both sides, and sometimes found similar gaps. From this analysis, we were able to identify training objectives, both on the point of content and on the method to adopt. These objectives will serve as the basis for the creation of the training programs, which will be the subject of the next activity and intellectual output of the project.