Title: Applied study of training projects as a learning strategy

Authors: HERNÁNDEZ-CRUZ, Luz María, MEX-ALVAREZ, Diana Concepción, ORTIZ-CUEVAS, Nancy Georgina and CASTILLO-TÉLLEZ, Margarita

Introduction

A project is an operation of remarkable complexity, singular, with defined start and finish dates. It is a non-repetitive job that must be planned and executed according to predetermined technical specifications, with a preset budget and temporal organization, with the participation of various departments of a company later dismantled at the end of the project, and maybe the collaboration of third parties.

Project

A project is performing various articulated activities in order to solve a context problem. The problems can be needs, difficulties or improvement actions, creation and innovation of services, processes or products.

Every project requieres to

- Plan activities to solve a problem

- Execute the activities looking for the resolution of the problem

- Search for knowledge and formation to solve a problem

- Evaluate the resolution of the problem through the accomplished products
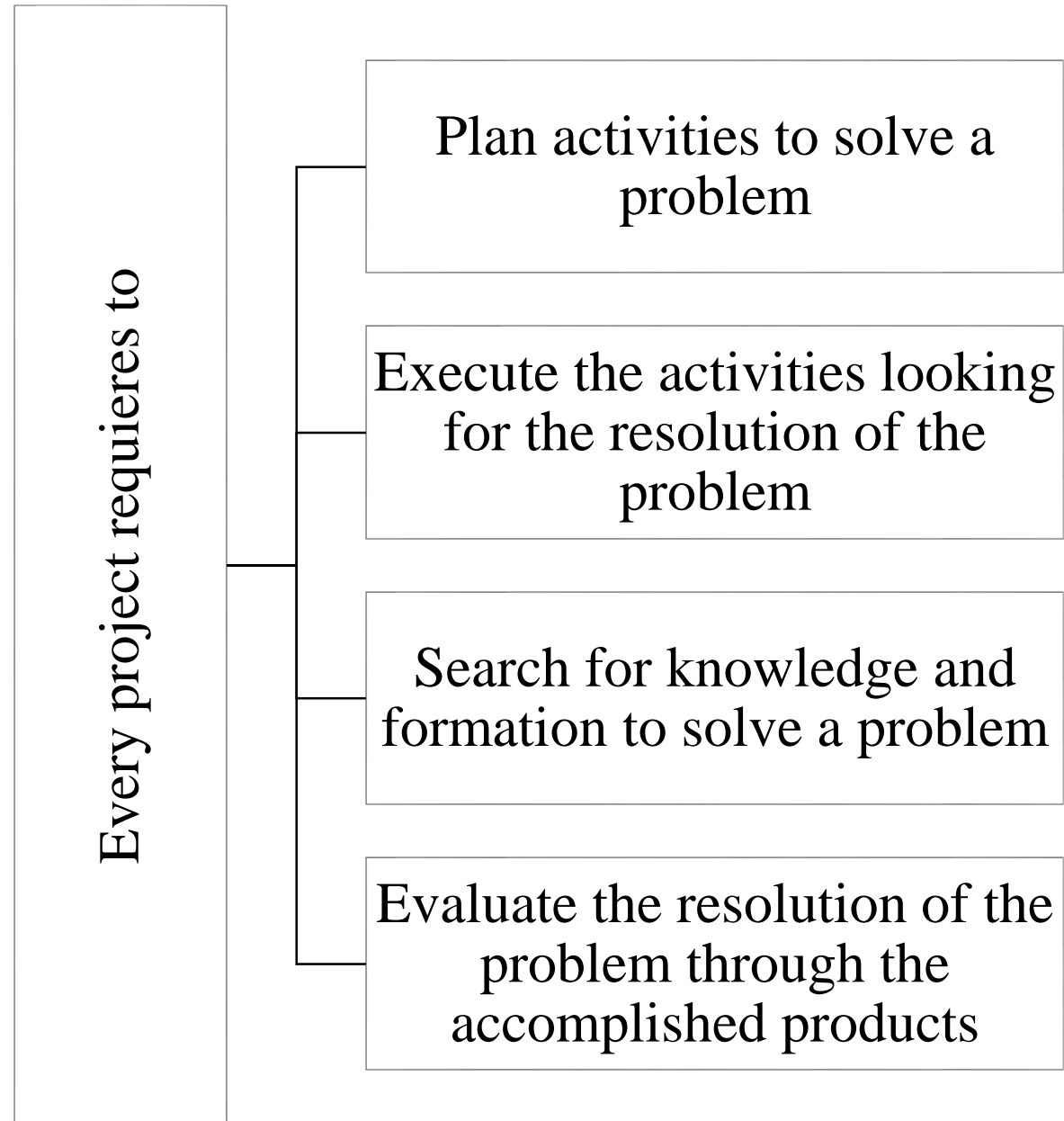
Formative Projects

In education, it's been proposed that students form by making projects. This way, there would be a bigger impact in the formation of entrepreneurial people. The methodology of formative projects consists in the students performing articulated activities to solve contextual problems and that way they develop the competences of the profile of graduation of a particular educational program, being very important the need to demonstrate them with evidence (products).

Its essential characteristics according to Tobón (2013) are:

- Working in the context.
- Co-create knowledge.
- Know how to be, live, know, do.
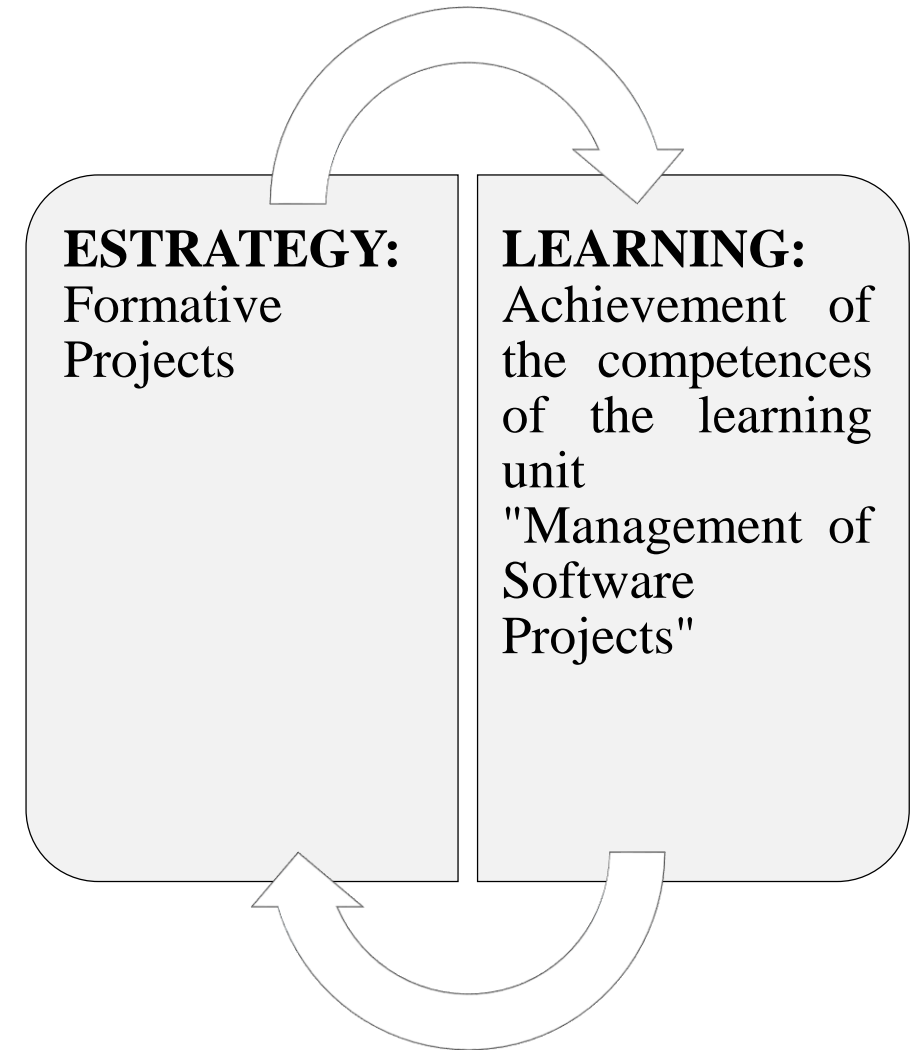- Solve context problems.
- Consider the ethical part.

Formative Projects
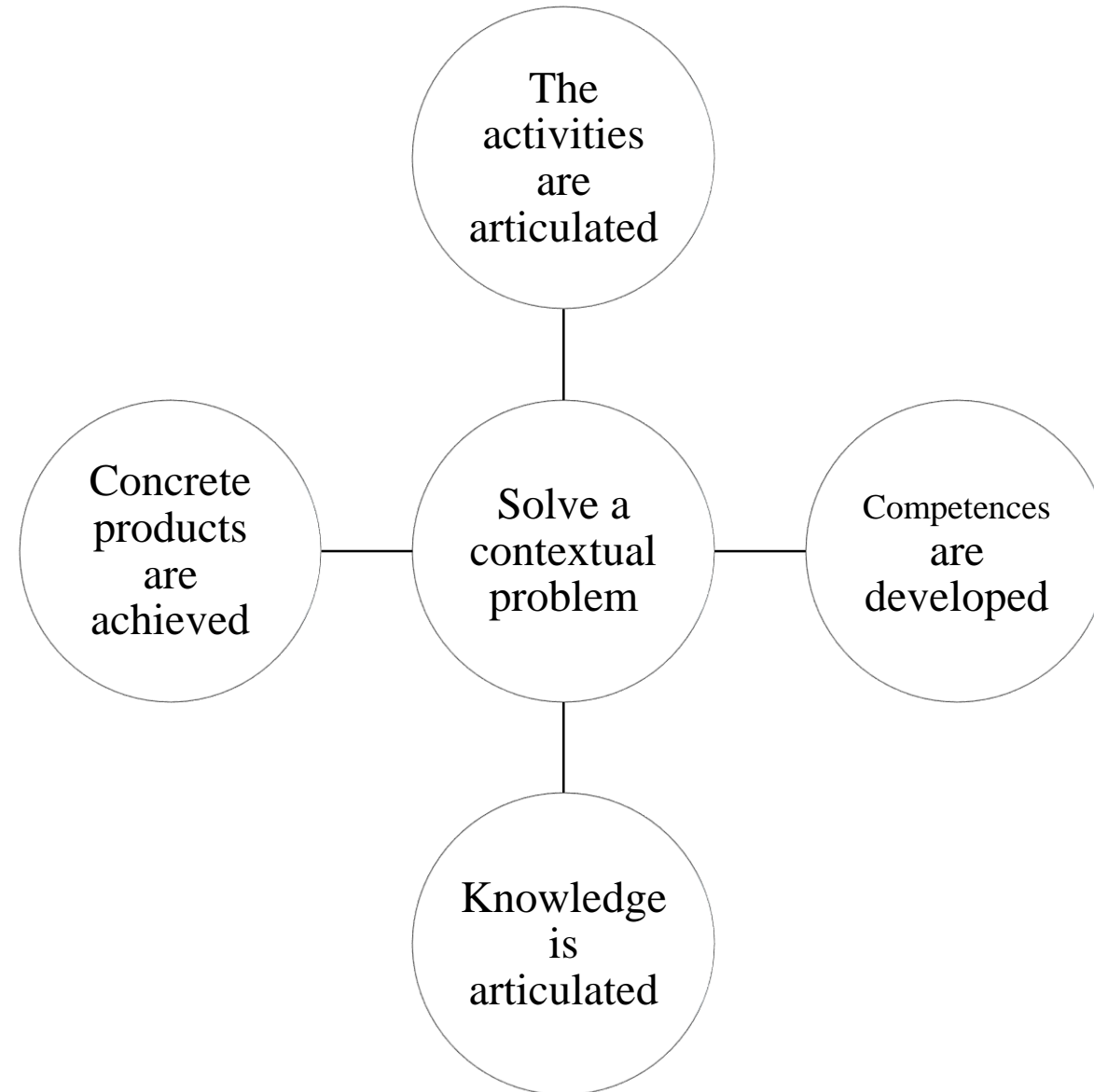
Methodology

The methodology (two steps):

• Study and implementation of the strategy "Formative projects" in the learning unit "Software Development Project Management" from the Educational Program "Computer Systems Engineering"

• Self-evaluation from the students in regards of the results obtained in the development of the generic and professional competences in the learning unit "Management of Software Projects" (field research).
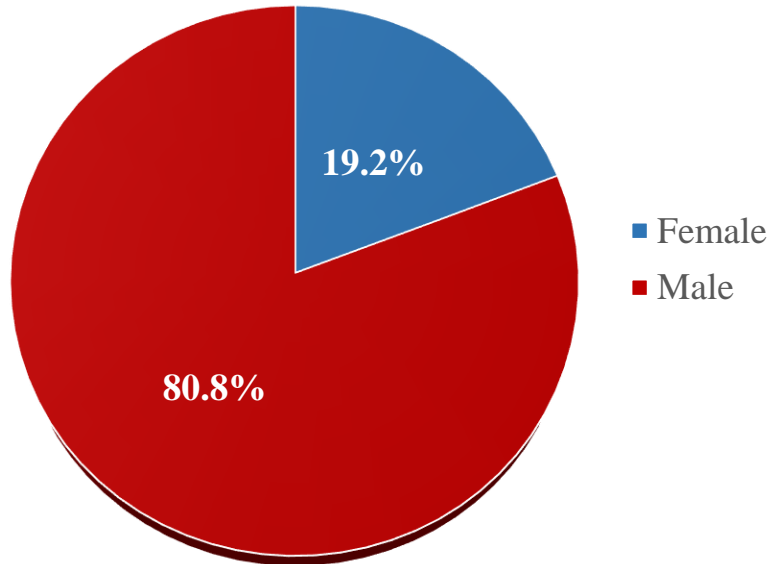
ESTRATEGY: Formative Projects

LEARNING: Achievement of the competences of the learning unit "Management of Software Projects"

Results

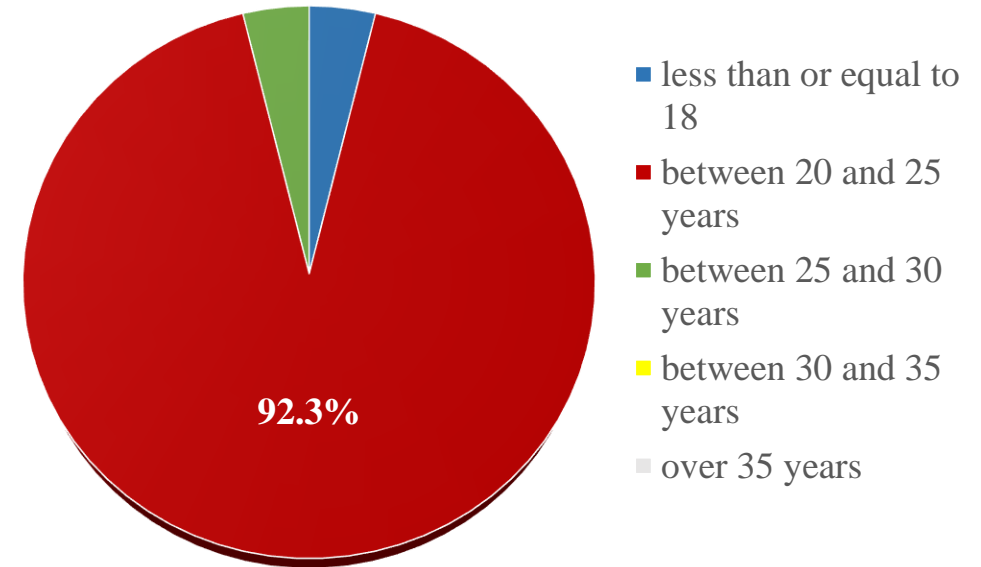| Phase of Formative Proyect	Description	Evidence
Addressing	The instructor exhibits to the students the competences to accomplish, the formative project's own characteristics and the methodology to follow for the development of the project.	Evidence 1: register/capture of the formative project's approach
Planning	The students make the project's certificate of incorporation, definition of the extent and the project plan based on the PMBOK Guide.	Evidence 2: documents of planning (project's certificate of incorporation, definition of the extent and plan for the direction of the project)

Results

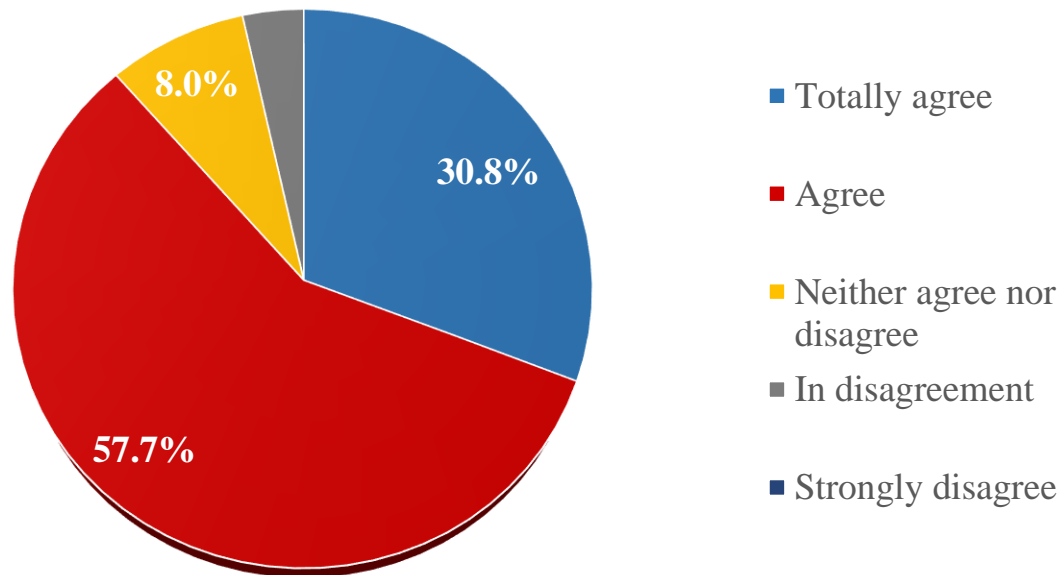| Phase of Formative Proyect	Description	Evidence
Execution	The students develop the project according to the designed plan, following the thematic content of the UA and the PMBOK Guide. In this phase, an information system is created, fulfilling the specifications described in the previous phase.	Evidence 3: Software product (Information system) with flawless operable functionalities alined with the characterisctics and specifications described in the definition of its extent.
Socialization	The students display their formative project to the group	Evidence 4: Multimedia presenation and/or auxiliary material for the project's final product (information system) presentation

Results

Surveyed by gender

19.2%

80.8%

- Female
- Male

Surveyed by age

92.3%

- less than or equal to 18
- between 20 and 25 years
- between 25 and 30 years
- between 30 and 35 years
- over 35 years

Results

The addressing phase makes known the competences to accomplish through the Formative Project. As well as the criteria, types, moments and tools of evaluation.

The planning phase allows to properly specify the requirements of the formative project.

- Totally agree
- Agree
- Neither agree nor disagree
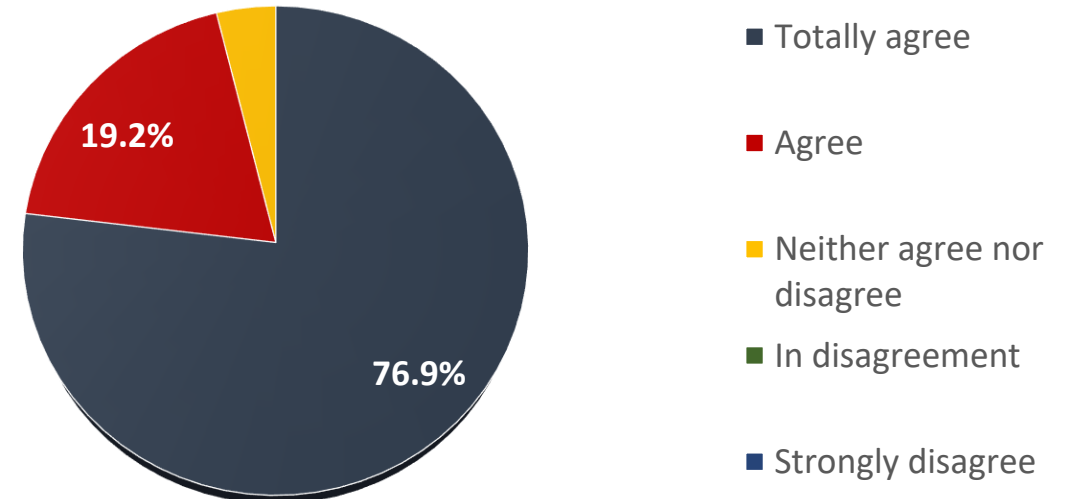- In disagreement
- Strongly disagree
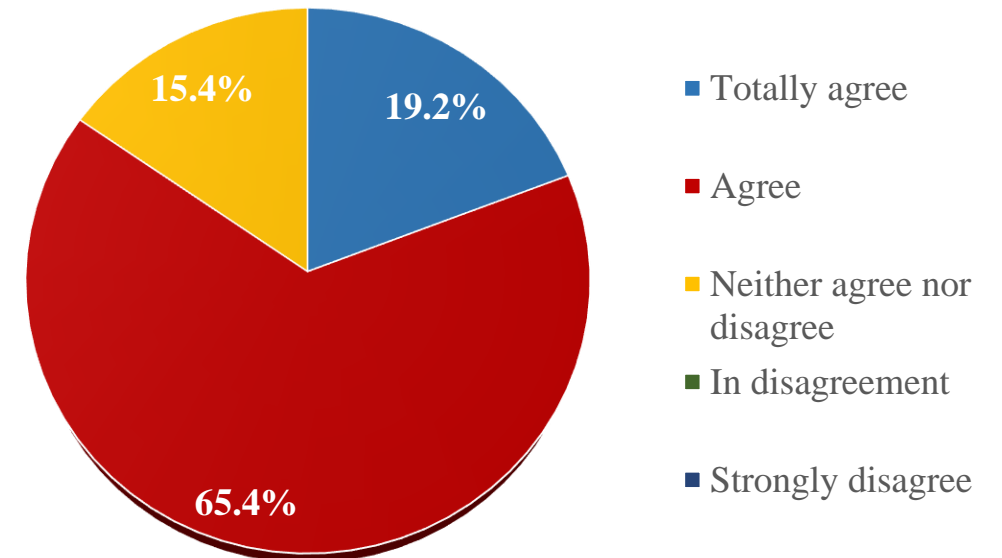
Results

The execution phase concerns to the development of the Formative Project including the following and control phases, whose base tool is the Project Plan, allowing to the accomplishment of the objectives.
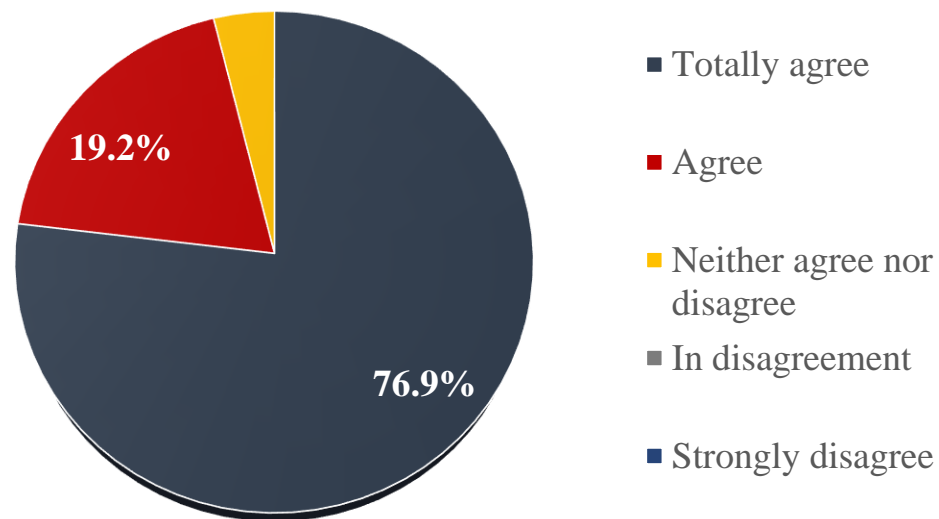
The closure phase concludes with the presentation of the promised results complying with all the stablished requirements, and at the same time, showing the accomplishment of the competence of the learning unit.

- Totally agree
- Agree
- Neither agree nor disagree
- In disagreement
- Strongly disagree

19.2%

76.9%

- Totally agree
- Agree
- Neither agree nor disagree
- In disagreement
- Strongly disagree

19.2%

76.9%

Conclusions

The Formative Projects are a didactic method for the purpose of students to learn, construct and develop the competences of the expected profile, for the case study, to reach the competence of the learning unit.

It is important not only to define the project, but to have an organized teaching-learning process composed of a group of pedagogical and communication methodologies, content management and use of tools of Technologies of Information and Communication (TICS).

About the process, it is recommended to take more emphasis to the evaluation process, defining criteria, types and tools that allow to correctly prove the knowledge and skills that students develop during the whole Formative Project process.

Conclusions

Certainly, the four phases of the Formative Project (addressing, planning, execution and socialization) are crucial and indispensable to successfully achieve the development of thereof. On its behalf, each learning unit from each Educational Program must initially have to make an analysis of correspondence to accurately frame the phases and be able to successfully implement the Formative Projects strategy.

Finally, the importance of the Formative Projects as a significant learning strategy, in addition to the accomplishment of the general and disciplinary competences. Another crucial factor is the collaborative work, and of course, the experience.

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