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PATHS FOR TRANSVERSAL SKILLS AND ORIENTATION (PCTOs) IN GENERAL AND VOCATIONAL SCHOOLS IN ITALY

**Initial Findings From an Explorative
Study on Students' Perception**

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PCTO



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- The European framework on **school guidance** emphasizes reducing the mismatch between education and the labor market, with a focus on addressing the issue of NEETs (Not in Education, Employment, or Training). Key documents, such as the **Recommendation on Key Competences for Lifelong Learning** (European Commission, 2018), highlight the importance of quality, inclusive education and lifelong learning to ensure individuals can navigate labor market transitions.
- The most recent recommendations on **Pathways to School Success** (Council of the European Union, 2022) focus on **improving school and career guidance**, recommending activities like curricular and extracurricular activities, that allow students to experience the reality of the world of work.



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These experiences link theory and practice, enhancing students' technical and interpersonal skills, improving job prospects, and facilitating a smoother school-to-work transition (OECD, 2024).

- Therefore, understanding the factors that facilitate or hinder the paths between school and work, along with analyzing students' acquisition of career-related skills and competencies, is crucial. These skills directly reflect the openness of the labor market to recent graduates and how easily they can integrate into the workforce (OECD, 2024).



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- In Italian high schools, the importance of effective guidance is focused on the development of basic and transversal skills, promoting youth entrepreneurship, and integrating education, vocational training, higher education, universities, and businesses. Guidance is seen as a continuous, individualized, and coordinated process that helps students recognize their talents, ambitions, and life prospects.

The *Paths for Transversal Skills and Orientation* (PCTOs) fit into this framework, allowing students to undertake internships in external structures or within their own school. PCTOs are a strategic teaching methodology aimed at the overall development of students, guiding their future educational and career choices.



Percorsi per le **Competenze Trasversali**
e l'**Orientamento**

The Paths for Transversal Skills and Orientation (PCTOs) in Italy



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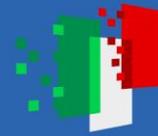
- PCTOs, introduced by **Law No. 145 of December 30, 2018**, replaced the previous **school-to-work alternation program**.
- While building on the foundation of the earlier program, PCTOs have shifted their focus toward the development of **transversal skills** to better guide students in making informed educational and career choices and enhancing their employability.
- This approach reflects the need for a **more integrated educational experience that goes beyond work placements**, emphasizing holistic skill development to meet the demands of the modern labor market.



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- PCTO are integrated curricular pathways carried out in various operational contexts, designed to offer strong educational integration. While they are typically developed during the lesson period, they can also take place during breaks, especially when the experiences occur outside of school environments or involve schedules that differ from the school calendar, such as with seasonal activities
- **PCTO start from the third year of high school (in Italy, high schools last 5 years) and the minimum required number of hours depends on the type of school: 90 hours for general education, and 150 or 210 hours for vocational education. However, schools have the autonomy to extend the PCTO hours if needed or desired by students.**

- To ensure the quality implementation of PCTOs, specific Guidelines were issued (Ministerial Decree No. 774, September 4, 2019), from which key elements can be extracted to ensure the quality of the programs:



- **Flexible design:** Programs should be tailored to local contexts and student needs.
- **Student involvement:** Students should actively participate in program planning, reflecting on their preferences and expectations.
- **Assessment of learning:** Evaluation should consider both the process and outcomes, encouraging reflection on attitudes and behaviors.
- **Documentation and sharing:** Experiences should be documented and shared to promote best practices and transparency.

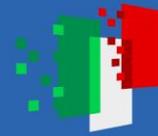
<https://www.miur.gov.it/documents/20182/1306025/Linee+guida+PCTO+con+allegati.pdf>



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Why conduct research on PCTOs?

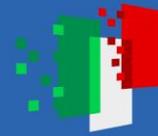
- The quality of PCTO programs seems to vary significantly, as they are subject to the planning of each individual school.
- Surveys that aim to give voice to students' experiences and assess the effects of such programs on their resources, levels of well-being, and ultimately, on their educational and career choices, are rare.
- Studies on school-to-work alternation programs and PCTOs, especially those involving larger samples, tend to focus on governance models, challenges, and success factors (Chimenti et al., 2022; Fondazione Di Vittorio, 2018; Fasanella, et al., 2023; Giancola & Salmieri, 2021; Giannoni et al., 2024; Poliandri et al., 2023).
- Additionally, there is currently a lack of studies focused on capturing the level of reception of the guidelines from a multi-level perspective.



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This study is part of a larger project funded by PRIN (Project of Relevant National Interest) 2022, that involves Sapienza University of Rome, University of Milano-Bicocca, and Alma Mater Studiorum - University of Bologna.



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Project Title: *Pathways for Transversal Competencies and Orientation (PCTO) as a device for developing personal resources and contrasting scholastic dispersion. Tools of analysis and paths of research training in upper secondary school*

Project Code: 20224984HS;

CUP: B53D23019220006

CUP MASTER: B53D23019220006

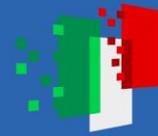
The present study: The PRIN PROJECT



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PRIN General Objectives:

Analyze the PCTO programs active in Italian upper secondary schools, with the aim of understanding:

1. If and how they achieve their intended objectives
2. If and how they play a strategic role in addressing the issue of school dropout
3. The relationship between school planning and the effects of PCTO on skills and student orientation.
4. The level of reception of the guidelines by educational institutions.

The PRIN project is structured into 4 main actions:

1. Analyze the design of PCTO programs to assess the level of reception of the ministerial guidelines (D.M. No. 774/2019) aimed at facilitating the feasibility of the pathways. career decisions.
2. Multiple case studies, using a mixed-methods approach, in five schools across three regions (Lazio, Lombardia, Emilia-Romagna), collecting data at various levels of analysis (institution, teachers, and students) to identify the factors influencing PCTO pathways and their effect on educational and career choices
3. Analyze the role of PCTO in the transition process through a retrospective study involving first-year university students.
4. Develop an open-access platform equipped with validated tools to support self-assessment and monitoring of certain dimensions and objectives of PCTO, which can continue beyond the project's conclusion.



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In this paper, we present the initial findings from the quantitative phase of the case studies (PRIN action 2), conducted in the Lazio region by the Sapienza unit group, involving two schools offering both general and vocational programs.

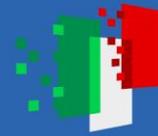
- **Specifically, we will show part of the results that have been considered, based on the guidelines, as “quality indicators” of the PCTOs (such as: consistency with the course of study, student involvement in the design of the pathways, perceived usefulness for orientation, and satisfaction), in relation to the type of educational program (general and vocational).**



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Why are we interested in investigating the “quality of PCTO” across different types of schools?

In Italy, high school education is divided into:

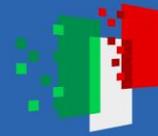
- **General**, with *licei* (e.g., scientific, classical, artistic), that offer a broad cultural education and strong study methods, making them particularly suitable for those planning to continue their studies at university.
- **Vocational**, with technical institutes (e.g., chemical, economic, IT) and professional institutes (e.g., services sector, industry, crafts). Technical institutes provide a solid cultural foundation in science and technology and guide students towards a range of professions within the same field. Professional institutes, on the other hand, prepare students for the practice of a specific profession at the end of their studies.



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Why are we interested in investigating the “quality of PCTO” across different types of schools?

In the implementation of PCTO, starting from the guidelines that assign 90 hours to *licei*, 150 hours to technical institutes, and 210 hours to professional institutes, **the different types of schools seem to have partially different objectives, or they appear to interpret the orientation/formative goal of PCTO in different ways.**

In fact, on the one hand, schools often perceive it as a means of bringing students to the labour market by potentially creating employment opportunities (in technical and professional schools) or as a form of orientation for selecting university programs (in lyceums). On the other hand, hosting organizations are not always motivated by an orientation and transversal skill acquisition objective, but rather by visibility goals as potential employers or tertiary education providers for students (Giannoni et al., 2024, p. 2).



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Why are we interested in investigating the “quality of PCTO” across different types of schools?

This variability among different types of schools results in a lack of equity in the opportunities and formative experiences offered to students.

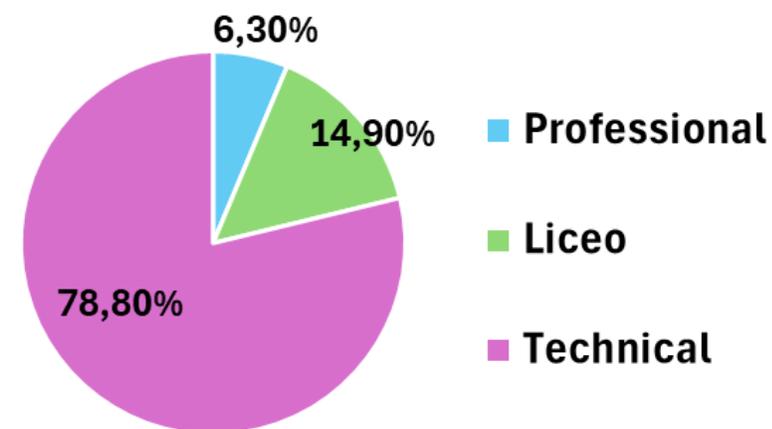
It is therefore necessary to understand the elements and causes of these disparities, and more importantly, to determine whether these differences in “quality” across different types of school are also reflected in students’ perceptions.

A total of **745 students from the final three years of two high schools** (cf. slide 6) completed a questionnaire divided into several sections:

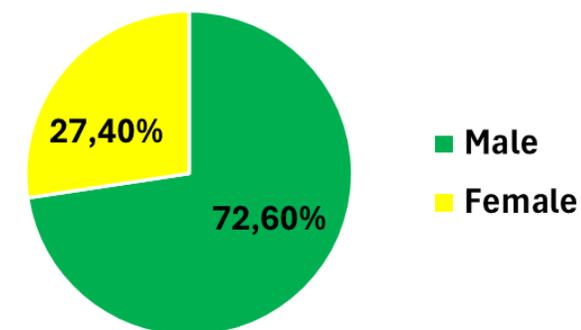
- socio-demographic variables and school information;
- the characteristics of the PCTOs based on the guidelines;
- transversal skills;
- well-being measures and dropout measures.

The variables analyzed in this study are those related to socio-demographic aspects and school information, as well as those concerning PCTOs

Student Distribution by School Type



Gender Distribution



PCTO Quality Indicators

Variables concerning PCTOs investigated:

Students responded using a 5-point Likert scale, ranging from 1 (not at all) to 5 (completely), to assess various aspects of their PCTO experience

- **Planning:** refers to how much students felt involved in the design and planning of their PCTO experience. It includes the extent to which they had a say in setting the objectives, choosing the type of activities to undertake, deciding when to begin, selecting the company to work with, or the course to attend.
- **Coherence:** reflects students' perception of how consistent the PCTO is with their field of study;
- **Usefulness for orientation:** how much students believe the PCTO is useful for their career orientation (career or university choices);
- **Satisfaction:** how satisfied students feel in general with their PCTO experience;



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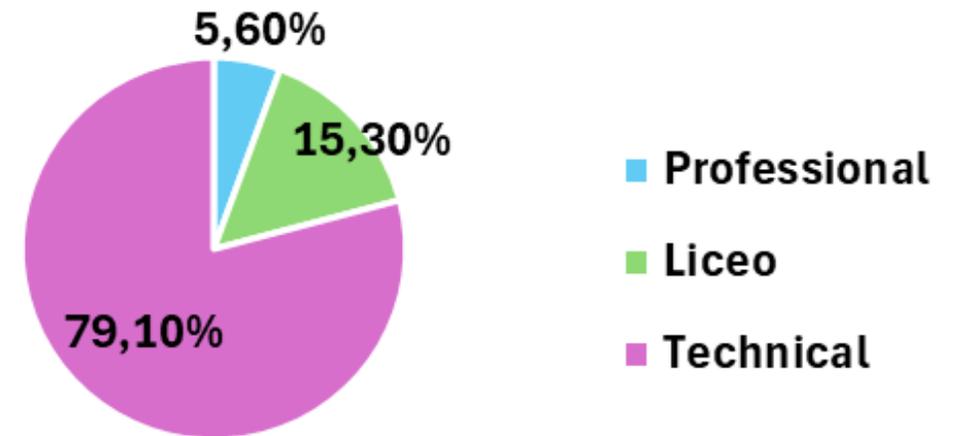
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For the analysis, we selected students who reported having started or completed their PCTO (*Since the beginning of your school experience, have you already completed or are you currently participating in a PCTO? Yes/No*)

**Students Who Have Already Completed
or Are Currently Participating in a PCTO:
Distribution by School Type**





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We then conducted a series of ANOVA tests:

1. We compared the different characteristics of PCTO, which represent the “quality” of the pathways according to the guidelines, based on the different types of schools (*Liceo*, Technical Institutes, and Professional Institutes).
2. Since both schools have a technical program (School 1 = Liceo and Technical; School 2 = Technical and Professional) and recognizing that the variability in the quality of PCTO depends not only on the type of educational program but also on the specific school and its context, we investigated whether there are differences between the two schools.

“Quality” of PCTO across the different types of schools: students’ perception

Students from Professional Institute report more positive perceptions across all dimensions examined compared to students from *Liceo* and Technical Institutes.

This suggests that in professional pathways, PCTOs are perceived as better structured, more aligned with their field of study, and more useful for career or academic orientation.

Methodological Note: The three groups have unequal sample sizes but show equal variances: Levene’s Test resulted in $p > 0,01$ for all variables, indicating that homoscedasticity is respected

	Type of school	Mean	SD
Planning	<i>Liceo</i>	2,81	0,93
	Technical	3,00	0,85
	Professional	3,48	0,75
Coherence	<i>Liceo</i>	2,59	0,91
	Technical	3,06	1,00
	Professional	3,80	0,93
Usefulness for orientation	<i>Liceo</i>	2,46	0,95
	Technical	2,74	1,00
	Professional	3,40	0,90
Satisfaction	<i>Liceo</i>	2,69	0,81
	Technical	2,93	0,89
	Professional	3,35	0,89

All ANOVA results were statistically significant with $p < 0,001$, and F-values ranging from 8,95 to 26,19.

“Quality” of PCTO across the Technical Institutes

Overall, the results are consistent with the idea that PCTO experiences vary depending also on the specific context of the school.

Students from School 2 report more positive perceptions across all dimensions compared to those from School 1. This suggests that, even within the same technical pathway, differences in the school’s context and implementation of PCTOs can significantly affect students’ experiences.

	School	Mean	SD
Planning	School 1	2,78	0,83
	School 2	3,28	0,81
Coherence	School 1	2,79	0,93
	School 2	3,38	1,00
Usefulness for orientation	School 1	2,57	0,97
	School 2	2,96	1,00
Satisfaction	School 1	2,68	0,81
	School 2	3,23	0,89

All ANOVA results were statistically significant with $p < 0,001$, and F-values ranging from 9,74 to 57,40.



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- Although this study presents only part of the preliminary results and is still in progress, the initial data highlight the importance of “listening” to students’ perspectives when assessing the quality of PCTOs.
- It is crucial to evaluate both the different educational pathways and the various contexts in which schools operate.
- Additionally, these results represent only a few of the PCTO quality indicators. The project also includes a qualitative investigation as part of the PRIN project.
- Findings will be presented and discussed with the schools in a comparative perspective. Understanding how students perceive PCTOs across different educational programs can provide valuable insights for improving program design, enhancing student engagement, informing policy decisions, ensuring equity, and measuring program effectiveness.

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Thank You for Your Attention!

Stanzione, I., Germani, S., Femminini, A., Marini, M., & Benvenuto, G. (2024). Paths for transversal skills and orientation (PCTOs) in general and vocational schools in Italy: initial findings from an explorative study on students' perception. *ICERI2024 Proceedings*. IATED

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