

Constructing the self in school guidance: strategic competencies, e-portfolio, and educational mentoring

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Abstract: Contemporary schools are called upon to deal with the uncertainty of educational transitions, the fragmentation of biographies and the impact of digital languages, which redefine the ways in which we learn and express ourselves. In this scenario, guidance can no longer be seen as a marginal activity, but as a cross-cutting and continuous process of self-construction. This paper investigates the integration of Pathways for Transversal Skills and Guidance (PCTO), e-portfolios and educational mentoring, exploring their potential in the development of strategic skills. The study is part of the Ef.Ate research project—"From the Forge of Hephaestus to the Wisdom of Athena"—involving five upper-secondary schools; at present, activities are underway in three of them. In this preliminary phase, we conducted an exploratory survey by administering the Learning Strategies Questionnaire (QSA; Pellerey, 1996) to students in the final two years of upper-secondary school (years 4–5), with the aim of identifying trends and critical issues in the distribution of strategic skills. The results highlight differences between schools and provide a useful basis for the next stages of the project. They confirm the need to integrate digital tools, reflective practices and relational devices so that guidance can be a generative and inclusive experience, capable of promoting self-direction and self-regulation (Benadusi, Molina 2018).

Keywords: Strategic skills; Educational mentoring; School guidance.



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1. Introduction

Today's schools are called upon to deal with uncertainty: that of educational transitions, fragmented biographies, and digital languages that shape new ways of learning and expressing oneself. In this context, guidance becomes one of the most urgent tasks, because it concerns not only the professional future, but also the very ability to build oneself. No longer an ancillary function linked to post-diploma choices, but a transversal and transformative experience, guidance must be understood as a continuous process that runs through the curriculum and involves the ability to attribute meaning to experiences, recognise one's own resources, cultivate

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project visions and integrate cognitive, emotional and social dimensions (Margottini, La Rocca, & Rossi, 2017).

This contribution fits into this framework, exploring the link between PCTO, the educational use of e-portfolios and educational mentoring, with the aim of investigating their integrative potential in the development of strategic skills (Margottini, 2019). The study is part of the Ef.Ate research project – “From the forge of Hephaestus to the wisdom of Athena”, which involves five upper-secondary schools and is currently active in three of them. The project aims to verify how the combination of authentic experiences, mediated reflection and relational support can be configured as a generative pedagogical ecosystem, capable of strengthening the construction of the self in an orientational perspective (Mortari, 2004).

The theoretical framework is based on the concept of *habitus*, understood as a system of internalised dispositions that guide individual action in contexts of learning and choice (Bourdieu, 2000; Pellerrey, 2006, 2013, 2021). In this perspective, strategic competences are not isolated skills but cognitive, ethical-social, emotional and behavioural habits that can be acquired and transformed through meaningful educational experiences (Baldacci, 2006, 2009, 2020). On a psycho-pedagogical level, two dimensions are particularly relevant: self-determination, which allows individuals to make informed decisions and guide their own path, and self-regulation, which concerns the management of cognitive and emotional processes in the learning process (Pellerrey, 2006; Wallnöfer, Zadra, 2021). These processes, which are at the heart of the Learning Strategies Questionnaire (LSQ) and the subsequent Additional Module (Pellerrey, 1996; Pellerrey et al., 2013), represent expressions of that orientational *habitus* which, as De Corte (2012) argues, fuels the adaptive competence necessary to deal with complex and changing scenarios.

In this context, the Pathways for Transversal Skills and Orientation (PCTO) are a privileged setting for activating situated, reflective and orientational learning processes. Going beyond the logic of school-work alternation, PCTOs – if designed with pedagogical intent – become spaces for integrated growth, where students tackle authentic tasks, take on responsibilities and reflect critically on the skills they have developed (Iannaccone & Barbato, 2025). In this process, the role of the school tutor is not limited to coordination, but takes on the characteristics of educational mediation, aimed at accompanying the student in the critical and narrative understanding of experiences. Alongside this, the e-portfolio appears to be a training tool with great potential: not simply a digital archive, but a metacognitive and self-narrative environment that allows learning paths to be documented, reread and interpreted, promoting the construction of a project identity (Scarano & Sorrentino, 2025).

The integration of e-portfolios into PCTOs allows experiences to be transformed into opportunities for reflection, capable of consolidating strategic skills and supporting student leadership.

Finally, educational mentoring provides the relational framework that completes the system: a practice of listening, recognition and personalised support that activates subjectivity and strengthens self-determination (Varisco, 2004). Far from being a directive relationship, mentoring is configured as a space for dialogue, in which students can develop choices, awareness and strategies to deal with the complexity of the present.

The survey presented here is a preliminary phase of the Ef.Ate project: an exploratory survey conducted through the QSA with students in the final two years of

upper-secondary school (years 4–5), aimed at identifying trends and critical issues in the distribution of strategic skills. The data collected provide a differentiated picture between institutions, which is useful for building a reference base for the subsequent phases. Rather than drawing definitive conclusions, this phase allows us to reflect on the complexity of training needs and the opportunity to integrate digital tools, narrative approaches and relational support devices into an educational approach that focuses on subjectivity and the development of strategic skills.

The article therefore aims to contribute to the debate on school guidance, showing how the synergy between PCTO, e-portfolios and educational mentoring can constitute a transformative ecosystem capable of redefining the guidance function of schools in a democratic and inclusive way.

2. Materials and Methods

The preliminary phase of the research covered three of the five schools in the Ef.Ate project, with participation by students in the final two years of upper-secondary school (years 4–5). The survey was designed as an exploratory exercise to build an initial picture of the perceived levels of mastery of strategic skills, in order to guide subsequent project actions. Participation was voluntary and fully compliant with privacy and educational research regulations.

The tool used was the QSA accompanied by the Additional Module. The QSA, a self-descriptive questionnaire, assesses the level of awareness and mastery of strategic skills through items organised into two macro-areas: cognitive (study strategies, concentration, self-regulation, sense of disorientation and willingness to collaborate) and affective (volition, perception of competence, anxiety management and causal attributions). The responses, provided on a 4-point Likert scale, allow individual and group scores to be calculated, providing a detailed profile of skills.

The administration took place in person in about 1 hour, during school hours, under the supervision of tutor teachers and researchers. Clear explanations were provided on the nature of the research and the use of the data, and the questionnaires were collected anonymously. The processing of the data by the research group produced proficiency profiles at school, class and individual student level. These profiles allow not only a descriptive reading of general trends, but also the initiation of pedagogical interpretation paths. Feedback to teachers will play a key role: the results can form the basis for feedback activities and the design of learning units aimed at developing current skills, according to the logic of personalisation and enhancement.

From a statistical point of view, the data were analysed using descriptive indicators (means, standard deviation, standardised points). The decision not to proceed with multivariate analysis at this stage is consistent with the nature of the survey, which aims to provide a map of training needs for the design of educational interventions.

Furthermore, in line with the project design, data collection will be supplemented by additional measures: feedback sessions and collaborative planning meetings. This triangulation of tools aims to enhance the reflective function of the QSA, transforming the results not into static labels, but into stimuli for reflective thinking in the Deweyan tradition and for revitalising the educational relationship.

The study was conducted in accordance with the ethical principles of educational research: authorisation was obtained from the collegiate bodies of the participating institutions; informed consent was obtained from students and, where applicable,

from parents/guardians; data were anonymised at source and processed in accordance with Regulation (EU) 2016/679 and current Italian legislation.

3. Results

Here, we present simplified data (with only the main points) for the three schools and two students: they show the kind of reflections that their analysis can stimulate. The sample consists of 237 students distributed across three upper-secondary schools (School 1: N = 96; School 2: N = 36; School 3: N = 105;).

Table 1 – Comparison of Cronbach's alpha recorded for the 1996 sample (Pellerey, 1996), for the 2018 sample (Pellerey, 2019) and for the three schools.

Competence	Cronbach's alpha QSA		
	1996	2019	Schools
C1: processing strategies	0,79	0,87	0,83
C2: self-regulation skills	0,74	0,80	0,78
C3: sense of disorientation	0,68	0,75	0,76
C4: willingness to collaborate	0,72	0,82	0,84
C5: use of semantic organisers	0,73	0,79	0,77
C6: difficulty concentrating	0,48	0,55	0,61
C7: tendency to ask questions	0,56	0,67	0,60
A1: basic anxiety	0,84	0,89	0,91
A2: volition	0,74	0,83	0,84
A3: attribution of success to controllable causes	0,69	0,76	0,69
A4: attribution of success to uncontrollable causes	0,67	0,73	0,75
A5: lack of perseverance	0,64	0,68	0,72
A6: perception of one's own competence	0,64	0,75	0,78
A7: occasional emotional interference	0,56	0,61	0,66
Existential meaning and perspective	/	/	0,85
Not feeling at the origin of one's own choices and actions	/	/	0,77
Number of students (valid compilation)	9.959	20.398	236

Before proceeding, we believe it is appropriate to briefly discuss Cronbach's alpha. The data shown in Table 1 show that the internal consistency of the scales has improved compared to that of the 1996 sample and is substantially comparable to that of the large 2019 sample, with two positive differences (C6 and A7) and two negative differences (C7 and A3). In only two scales, the alpha of the three schools appears undesirable (DeVellis, 2017): C6 and C7.

Considering that, by construction, 5 stanine points represent the average of the sample taken as a reference (the approximately 3,400 students enrolled in upper-secondary schools who participated in the validation of the instrument in 1996

and the 236 respondents for the last two scales, those relating to self-determination), we believe it is appropriate to assign a meaning to the profiles using the following threshold values:

- $PS \geq 8$ indicates a value significantly higher than the average of the reference sample;
- $7 \leq PS \leq 7,9$ indicates a value higher than the average of the validation sample;
- $6 \leq PS \leq$ indicates a value slightly higher than the average of the reference sample;
- $4,0 \leq PS \leq 5,9$ indicates a value close to the average of the reference sample;
- $3,0 \leq PS \leq 3,9$ indicates a value slightly lower than the average of the reference sample;
- $2,0 \leq PS \leq 2,9$ indicates a value lower than the average of the reference sample;
- $PS \leq 2$ indicates a value significantly lower than the average of the reference sample.

Table 2 – The profiles of the three schools (Stanine points).

Scales	School 1	School 2	School 3
Q_C1: processing strategies	6,0	5,4	5,6
Q_C2: self-regulation skills	5,3	3,9	5,4
Q_C3: sense of disorientation	6,2	6,7	5,4
Q_C4: willingness to collaborate	4,4	4,4	4,6
Q_C5: use of semantic organisers	4,6	3,6	4,3
Q_C6: difficulty concentrating	6,4	6,3	6,6
Q_C7: tendency to ask questions	5,9	5,6	5,4
A1: basic anxiety	5,1	4,9	4,2
A2: volition	4,7	4,1	5,0
A3: attribution of success to controllable causes	5,0	4,3	5,3
A4: attribution of success to uncontrollable causes	5,7	6,2	5,2
A5: lack of perseverance	5,7	6,5	5,5
A6: perception of one's own competence	6,4	5,8	6,5
A7: occasional emotional interference	4,4	3,8	4,4
Existential meaning and perspective	4,9	4,4	5,3
Not feeling at the origin of one's own choices and actions	4,9	6,0	4,8

School 3's profile appears to be the most consistent. Two scores are above the validation sample average. The first is in an affective strategic skill: perception of competence; the second is in a cognitive skill: difficulty concentrating. Respectively,

one score is desirable and one is undesirable. It should be noted that this second result probably applies to the entire sample.

It is difficult to determine whether School 1's profile is more or less functional for learning. There are two values that appear to be slightly higher than those of the validation sample and desirable: in the perception of skills and in emotional strategies. These are accompanied by undesirable results in terms of disorientation and difficulty concentrating.

School 2's profile is apparently less functional for learning. In fact, undesirable values are recorded for six strategic skills: two of an affective nature (attributing success to uncontrollable causes and lack of perseverance) and four of a cognitive nature (self-regulation skills, sense of disorientation, use of semantic organisers and difficulty concentrating). A positive value slightly above the average for the validation sample is found for occasional emotional interference.

Now look at the following table.

Table 3 – The profiles of two students (Stanine points).

Competence	Stud. 1	Stud. 2
C1: processing strategies	4,5	8,0
C2: self-regulation skills	3,9	8,5
C3: sense of disorientation	9,3	1,5
C4: willingness to collaborate	0,0	7,6
C5: use of semantic organisers	6,8	9,0
C6: difficulty concentrating	10,0	2,6
C7: tendency to ask questions	7,3	8,2
A1: basic anxiety	9,9	0,5
A2: volition	0,0	8,1
A3: attributing success to controllable causes	5,1	6,9
A4: attributing success to uncontrollable causes	7,2	2,2
A5: lack of perseverance	7,4	2,5
A6: perception of one's own competence	3,3	10,0
A7: occasional emotional interference	7,3	2,1
Existential meaning and perspective	1,3	6,2
Not feeling at the origin of one's own choices and actions	8,8	2,8

The profiles of the two students are very different. And there are many others; a variety of needs and talents that do not appear in school profiles, that can be glimpsed in class profiles and that emerge strongly from individual data.

Except for only two strategic skills (elaborative strategies and attributing success to controllable causes), all the values in the first profile appear undesirable; some seem extreme (such as 0 in willingness to collaborate and volition and 10 in difficulty concentrating). In the second profile, the stanine scores always appear desirable. The data relating to self-determination are probably of great interest. The attribution of

value to one's own experience is, with a high probability, significantly lower than the average of the 236 respondents for the first student and slightly higher for the second. Conversely, the perception of not feeling in control of one's own choices appears significantly higher in the first and lower in the second.

4. Discussion

We observed promising profiles of perceived mastery of strategic skills in two schools – School 1 and School 3 – which appear to be sufficiently functional for self-directed learning. The profile at School 2 seems, so to speak, more problematic, particularly in terms of self-regulation.

The individual data of the students are very different from those of the schools. Significant differences seem to emerge. This variety probably makes a cluster analysis appropriate.

These differences seem, however, to confirm the need for an ecosystemic approach that links authentic tasks, mediated reflection and relational support, in line with the literature on PCTO, e-portfolios and mentoring. In terms of PCTO, when properly designed, experiential contexts offer opportunities to exercise responsibility, reflect seriously on self-determination processes and rework outcomes in terms of learning (Iannaccone & Barbato, 2025). The e-portfolio, when used as a metacognitive and narrative environment, could stimulate action on both self-determination and self-regulation processes, promote learning stabilisation, make strategies explicit, renegotiate attributions and strengthen project identity (Scarano, Vivona & Martiniello, 2025). Educational mentoring could provide the relational framework within which to support self-direction, which is fundamental for adaptive competence (De Corte, 2012), working on recognition, listening and guided reflection (Varisco, 2004; Pellerey, 2006).

The differences between institutions – with higher scores in terms of perceived competence in two schools and more marked critical issues regarding disorientation or concentration in the other – suggest, with great caution, that educational environments and school practices have an impact on the structuring of strategic habits. This has a number of pedagogical implications: (a) systematically integrating self-reflection and metacognitive monitoring activities into PCTOs, with observable goals in terms of self-determination, concentration difficulties and disorientation; (b) using e-portfolios to highlight effective strategies and to reinterpret successes and obstacles, influencing the locus of control (Comoglio, 2003); (c) formalise mentoring programmes that make explicit the objectives of self-determination (decision-making, planning) and self-regulation (planning, monitoring, emotional control).

The limitations of this phase include the exploratory design, the use of self-assessments (possible desirability bias) and the restriction of the sample to three institutions in the initial phase. These limitations guide future directions: pre-post longitudinal design, integration of observational indicators into PCTO activities, cluster analysis of strategic profiles to personalise mentoring and, more generally, evaluation of the combined effects of PCTO, e-portfolios and mentoring on orientation habitus.

5. Conclusions

The exploratory survey conducted in the three schools currently participating in the project highlights a difference in the perceived self-direction skills among the

students to be taken on. In this perspective, the articulation between PCTO (authentic tasks and responsibilities), e-portfolio (reflective documentation and self-narrative) and educational mentoring (listening, recognition, personalised support) is consistent with the objective of supporting the development of strategic skills in the components of self-determination and self-regulation. The differences observed between institutions also suggest the need to tailor actions to the specificities of the contexts, using the profiles provided by the QSA to guide priorities and teaching choices.

Given the preliminary nature of this phase, conclusions remain limited. However, the evidence gathered provides an opportunity to formulate hypotheses about the project's next steps, in particular to: (i) plan structured moments of reflection before, during and after the PCTO experiences; (ii) enhance the e-portfolio as a metacognitive and guidance tool; (iii) formalise mentoring pathways with explicit objectives on self-direction and self-regulation.

Subsequent phases may include a longitudinal design (pre-post comparisons) and triangulation with qualitative data, in order to monitor the extent to which the integration of PCTO, e-portfolio and mentoring contributes to stabilising the resources identified and mitigating the vulnerabilities found, within the framework of guidance understood as a process of self-construction.

References

- Baldacci M. (2006). *Ripensare il curriculum*. Carocci.
- Baldacci, M. (2009). *La dimensione emozionale del curriculum. L'educazione affettiva razionale nella scuola*. FrancoAngeli.
- Baldacci, M. (2020). *Un curriculum di educazione etico-sociale. Proposte per una scuola democratica*. Carocci.
- Benadusi, L., & Molina, S. (2018). *Le competenze. Una mappa per orientarsi*. Il Mulino.
- Bourdieu, P. (1972). *Esquisse d'une théorie de la pratique précédé de Trois études d'ethnologie kabyle*. Éditions du Seuil.
- Carruba, M.C., Giacomantonio, A., & Pilotti, F. (2024). *L'e-portfolio e i processi di autodirezione dell'apprendimento*. Studium.
- Comoglio, M. (2003). *Insegnare e apprendere con il portfolio*. Fabbri.
- De Corte, E. (2012). Constructive, self-regulated, situated, and collaborative learning: An approach for the acquisition of adaptive competence. *Journal of Education*, 192(2-3), 33–47.
- DeVellis, R.F. (2017). *Scale development: Theory and applications*. Sage.
- Iannaccone, S., & Barbato, A. (2025). The educational value of PCTO: The tutor's role in promoting critical reflection and the development of transversal and strategic skills. *Giornale italiano di educazione alla salute, sport e didattica inclusiva*, 9(2).
- Margottini, M. (2019). Autovalutazione e promozione di competenze strategiche per la scuola e per il lavoro. *Formazione & Insegnamento*, 17(1), 309-322.
- Margottini, M., La Rocca, C., & Rossi, F. (2017). Competenze strategiche, prospettiva temporale e dimensione narrativa nell'orientamento. *Giornale Italiano di Ricerca Educativa*, 10, 43-61.
- Mortari, L. (2004). *Apprendere dall'esperienza. Il pensare riflessivo nella formazione*. Carocci.
- Pellerey, M. (1996). *Questionario sulle strategie di apprendimento (QSA)*. LAS.

- Pellerey, M. (2006). *Dirigere il proprio apprendimento. Autodeterminazione e autoregolazione nei processi di apprendimento*. La Scuola.
- Pellerey, M. (2013). Le competenze strategiche: loro natura, sviluppo e valutazione. *Orientamenti pedagogici*, 60(2), 479–497.
- Pellerey, M. (a cura di). (2019). *Progetto di ricerca-intervento sul ruolo del Portfolio Digitale*. CnoS-FAP.
- Pellerey, M. (2021). *L'identità professionale oggi. Natura e costruzione*. FrancoAngeli.
- Pellerey, M., Grządziel, D., Margottini, M., Epifani, E., Ottone, E. (2013). *Imparare a dirigere se stessi*. CnoS-FAP.
- Scarano, G., & Sorrentino, C. (2025). The contribution of teachers to the development of students' professional identity through the e-portfolio as a transformative tool. *Giornale italiano di educazione alla salute, sport e didattica inclusiva*, 9(1).
- Scarano, G., Vivona, A., & Martiniello, L. (2025). *Building self-awareness in school guidance: strategic skills, e-portfolio and educational mentoring*. In *Convegno SIREM 2025 – Ibridazioni feconde: saperi, pratiche, territori, rete. Book of abstracts*. Edizioni Universitarie Romane.
- Varisco, B. M. (2004). *Portfolio. Valutare gli apprendimenti e le competenze*. Carocci.
- Wallnöfer G., & Zadra, C. (2021). *Voci e prospettive sui percorsi per le competenze trasversali: processi di empowerment e di apprendimento trasformativo*. In Cavrini G., Parricchi M., Kofler D., Cagol M. (a cura di), *Per tutta la vita: pedagogia come progetto umano* (pp. 36-49). Franco Angeli.