Resources for Educational Guidance: A Look at the Features and Uses of Digital Platforms

Federica Cornali*, Dario Prunotto**

Author information

*   Department of Cultures, Politics and Society, University of Turin, Italy.
        Email: federica.cornali@unito.it

**   Independent Researcher.
        Email: dario.prunotto@gmail.com

HOW TO CITE

PADOVA **UP**

Resources for Educational Guidance: A Look at the Features and Uses of Digital Platforms

Federica Cornali, Dario Prunotto

Abstract: Over the past decades, numerous studies, research, reports and European resolutions have emphasized the importance of educational guidance for ensuring educational success and professional integration at all stages of life. Educational guidance is recognized as an integral part of study programs and educational processes. In addition to enhancing students' ability to know themselves, their context and cultural and socioeconomic changes, this guidance provides information on various educational offers so they can be the protagonists of their personal life projects and make the best decisions for themselves. In this scenario, new resources have recently emerged: digital platforms for educational guidance. These are digital infrastructures, generally accessible online, that aim to facilitate and shape more or less personalized interactions to provide counselling and guidance services. After a brief illustration of the formal provisions and the salient characteristics of school guidance in Italy, this study will examine some of the main online platforms that offer guidance services for school choice. The aim is to highlight the uses, potential and limits of these resources in light of a reflection on the aims of school guidance.

Keywords: Educational Guidance, Digital Platform, Education Choices, Digital Education, Orientation Practices

1. Introduction

Over the past decades, the effectiveness deficit of the Italian school system has become particularly evident due to the consolidation of international indicators and the resulting comparisons with the performance of school systems in other countries. In light of these comparisons, it appears that the system is characterized by a generally low level of skills learned by students (17th ranking out of 20 European countries participating in both reading and mathematics domains, according to the OECD's Programme for International Student Assessment survey in 2018), high dropout rates (13.2% vs. 8.7% EU27 average, 2020 data), and an unsatisfactory rate of completion of university studies in the age group between 25 and 34 years old (29% vs. 41% EU27 average, 2020 data). In addition, in Italy, the influence of social origins is still very persistent in the school participation of young people. While the growth in the enrolment and completion rates of studies has attenuated the social differences in pursuing a higher secondary education degree over time, significant differences in the choice of school type based on academic or professional destination are still observed (Guetto & Vergolini, 2017). Moreover, the outcomes on the labour market regarding the correspondence between the obtained degree and its effective use in employment — in terms of the congruity of the direction and level achieved — are not encouraging. There is evidence of a significant mismatch between knowledge and skills acquired at school and those needed in the labour market, with a percentage of inconsistency of 40%, one of the highest values recorded internationally (Luciano & Romanò, 2017).

In such an adverse situation, the emphasis often placed on orientation processes may seem excessively optimistic. The statements of the Ministry of Education, according to which «orientation assumes a central and strategic function in the fight against dispersion and educational failure» with the aim of «preventing and combating youth distress and promoting full and active employability, social inclusion, and intercultural dialogue» (MIUR, 2014, p. 3), seem to evoke a kind of panacea that heals all the damages affecting the Italian school system, and there is more. Numerous studies (e.g., Law, 1996; Watt, 1998; Watts & Fretwell, 2004) as well as institutional reports and resolutions (e.g., Council of the European Union, 2004 and 2008; Organisation for Economic Co-operation and Development and European Commission, 2004; European Commission, 2013) reaffirm the importance of guidance actions for ensuring educational success and professional integration at all stages of life: these actions are recognized as having a fundamental role in identifying abilities, skills, and interests and making decisions about learning to undertake and work paths to follow. However, it is essential not to overlook the fact that a wide range of individual, social, and institutional factors con-

tribute to determining school choices, on which guidance, without adequate school reforms, can exert limited influence.

In a scenario where guidance in only some fortunate cases becomes an effective leading practice, new resources have recently emerged: digital platforms for educational guidance ('DPEGs' hereafter). DPEGs are digital infrastructures, generally accessible online, that facilitate and shape more or less personalized interactions between end-users (generally students and their families but also educational institutions) and their managers to provide advice and guidance.

After a brief illustration of the regulatory references and the salient characteristics of school guidance in Italy, this study will survey some of the main online platforms that offer orientation services for the choice of educational path. The aim is not to conduct a qualitative comparative analysis of DPEGs or a case study — for which we refer, for example, to the in-depth writings of Landri & Vatrella (2019) and Romito et al. (2019) but — through a necessarily nonexhaustive review — to highlight the uses, potentialities and limits of such resources in light of a reflection on the purposes of school guidance.

2. Choosing schools (why not browse online?)

In Italy, the school track occurs at the end of upper secondary school, when, at the age of 14, students and their families must choose among different educational paths. These choices are unconditional, and the recommendations from educational institutions (the so-called 'guidance councils') are not binding but mere advice. The different paths (of which the initial two-year period is mandatory to fulfil the educational obligation until the age of 16) lead to the continuation of tertiary studies or to different work careers and are divided into (a) *traditional lyceums* with emphasis on humanities subjects (classical lyceum) or scientific subjects (scientific lyceum) and (b) *other lyceums* with different specializations (e.g., linguistic lyceum, artistic lyceum).); (c) *technical schools*, which combine a general curriculum with technical programs; (d) *vocational schools*, with training programs for operational roles in the production of services sectors; and (e) *three- or four-year vocational training qualifications* offered by the regional vocational training system. The order of this list reproduces the level of prestige attributed to the different courses. All five-year courses allow entry to university, subject to passing the entrance test where needed. However, *traditional lyceums* are considered the most academically oriented options, while *other lyceums* are perceived as less demanding and therefore preparatory for less challenging and demanding university courses. Finally, *technical and vocational schools* are mostly identified as educational paths for direct entry into the workforce.

In a school system such as the Italian system — which is fragmented and stratified and in which a free choice regime prevails — guidance activities become strategically important. On the one hand, by guiding reflection and awareness, they ensure that the most suitable choices are made, improving the correspondence between students and educational paths to minimize the risk of failure and dropping out of school. On the other hand, although this is not an explicitly declared goal, they can favour equalization processes. It has been observed that social inequalities in school participation tend to be greater when students and their families are free to choose the preferred path and are not bound by institutional barriers. In this case, even inequalities in opportunities and aspirations can fully manifest (Dollmann, 2016). In Italy, the regime of free choice and tracking that occurs before the end of compulsory schooling —, which is completed at the age of 16 when choices have already been made—favours the reproduction (horizontal, according to the chosen path) of those inequalities to which the extension of school participation (vertical, after compulsory schooling) seems to have contributed to overcoming (Bonica & Olagnero, 2011). Studies by Canaan (2020) in France and Meghir & Palme (2005) in Sweden suggest that reforms (such as the extension of compulsory schooling and innovation of curricula) are essential for supporting equality, but school guidance programs can also play a significant role. Accurate information on the costs, content, and opportunities associated with each educational path is certainly useful for disadvantaged students whose parents often do not know the education system, are intimidated by it, or misunderstand the benefits of education.

Over time in Italy, a series of indications have outlined the aims and activities of orientation actions. The guidelines on paths for transversal competencies and orientation — "Percorsi per le competenze trasversali e l'orientamento" (PCTO) — adopted by Ministerial Decree 774 of 4 September 2019, and currently in force and in continuity with the previous "National Guidelines for Permanent Orientation" of 19.02.2014 and the "Guidelines on Lifelong Orientation" (Ministerial Circular 43 of 15.04.2009) as well as the "Ministerial Circular" of 6 August 1997, No. 487, which stated in Article 1 that "orientation is an institutional activity of schools of all levels, constitutes an integral part of study curricula and the educational and training process and is expressed in a set of activities aimed at training and enhancing the abilities of students to know themselves, the environment in which they live, cultural and socio-economic changes, training offers, so that they can be the protagonists of a personal life project, and participate in study, family and social life in an active, equal and responsible manner".

These directives emphasize how orientation should not be seen as an activity in itself but as an educational process aimed at the development of complex skills. However, this does not always happen, and orientation is

often substantiated in a variety of activities (distribution of paper brochures, organization of special events, fairs, open days) that are sometimes discontinuous and not always suited for the important objectives for which they are intended.

A limited but incisive literature highlights what we could define as the 'dark areas' of Italian orientation practices. It questions whether orientation activities enable students to make effective choices, as they are immersed in the power relationships of the structures that characterize the educational system, in which, through teachers' advice and professional counselling services, students' ambitions that are too high are 'corrected' with a more marked effect, especially for those from disadvantaged backgrounds (Bonizzoni et al., 2016; Romito, 2016a). Other analyses show that the greatest distortion occurs in the case of students with average academic performance (Argentin et al., 2017). Furthermore, since guidance advice is not binding, from the perspective of those who 'deviate' from the advice received, it is evident that consolidated mechanisms of social reproduction persist; educated parents tend to not follow guidance aimed at vocational training, just as less-educated parents make enrolment in high school less likely, despite teachers' recommendations in that direction (Checchi, 2010). Other studies analyse specific orientation initiatives, such as fairs — considered at the same time as 'devices' of the education market, social events characterized by dynamic interaction characteristics and 'political events' for the construction of consensus and implementation of policies (De Feo & Pitzalis, 2018) — or the material tools in use – such as guidance forms, questionnaires, and exercises — and highlight their ambivalent effects and the normalizing function of these devices in the logic of education governance processes (Romito, 2016b).

This set of evidence and reflections raises questions about the effectiveness and therefore the actual usefulness of the guidance activity in which Italian schools are called to play a central role. According to ministerial indications expressed in the guidelines on PCTO, schools must work to support individual planning and ensure the training and strengthening of cross-curricular skills that are essential for enhancing the person and the ability to make informed and appropriate choices throughout life. To this end, schools must design and implement orientation paths according to a curricular dimension that provides for specific educational goals, an experiential dimension (e.g., visits and internships in companies), and an orientation dimension for preparing choices. To ensure the success of these paths, schools must act as pivotal actors that promote an integrated connection through the active involvement of multiple subjects, in various capacities interested and committed to promoting the guiding function of education, to build an 'educa-

tional guidance community'. This service network must make use of existing partnerships and new partnerships to be promoted at the local level.

In recent years, in such a multifaceted context, DPEGs have emerged. These are digital resources for guidance, mostly accessible online, that vary widely in terms of proposing subject, tools offered, pursued purposes, and level of diffusion. It should be emphasized that the first computer-assisted career planning systems were developed in the late 1960s by the U.S. Department of Labour and then distributed and used at the district school level. In some quasilongitudinal studies, it has been shown that students who have planned and set career goals through the use of computer-assisted systems are less likely to drop out of high school and more likely to continue their studies in some form of postsecondary education (Harris-Bowlsbey, 2013). In Italy, the national guidelines of 19.02.2014 have highlighted "the need for web resources and multimedia supports designed and realized to respond to new guidance needs and ensure all students equal access to opportunities and adequate support" (Miur, 2014, p. 11). To this end, the Ministry refers to online portals dedicated to guidance that, interconnected with websites, should, following standards of transparency, openness, and efficiency, constitute a system whose central reference is the ministerial portal "Io scelgo, Io studio" available at http://www.orientamentoistruzione.it/.

Today, web resources seem indispensable. Students — digital natives — live in a world where technology is omnipresent and are constantly surrounded by interconnected devices through which they seek answers to all their questions, relying on fast, if not immediate, response times. With the development of technologies in recent years, digital activism has exploded, facilitating the fast and large-scale exchange of information and content supported by platforms. The term 'platform', although increasingly widespread, is elusive, and what it references is not always clear. While the term was once used in the computer field to denote an underlying computer system on which programs or applications are developed and/or executed, today, this term is used to identify a "reprogrammable digital infrastructure that facilitates and shapes personalized interactions between end-users and contributors, organized through the systematic collection of data, their organization through algorithms, their circulation and monetization" (Poell et al., 2019, p. 3).

The increasingly central role of digitalisation — particularly the diffusion of online platforms — in the field of education has marked the entry of an unprecedented set of subjects, both public and private individuals who offer schools technological solutions to redesign learning environments and practices, into the educational arena and has changed the scenarios of usual school activities. However, this is not free from the risk that unex-

pected forms of data-based digital governance may arise from the platforms (Landri, 2018).

Although platforms generally have a relatively limited role in overall orientation initiatives, it is useful to pay particular attention to them for several reasons. First, a growing diffusion of digital platforms for education is expected, as platforms are playing an increasingly crucial role in teaching and learning — with a recent impetus due to the pandemic — to the extent that expressions such as the 'platformization of education' (van Dijck & Poell, 2018), 'platform pedagogies' (DiGiacomo et al., 2019), 'platform teachers' and 'platform classrooms' (Williamson, 2019) have emerged. Second, digital platforms for education represent a potential element of discontinuity within the regulatory policy framework in Italy, which still places the primary function of schools at the centre but recognizes the potential development space for new solutions that could bring new decision-making autonomy. This phenomenon is still in its early stages, but if implemented by diverse and motivated actors, it could contribute to mitigating the sometimes distorting effects of current orientation practices. Alternatively, this phenomenon could confirm and reinforce these effects.

3. This study: Aims, method, and limitations

This contribution provides an overview of some DPEGs available in Italy. Since the aim was not to provide a comprehensive examination but to screen some of the most significant resources, a reasoned sampling was carried out, which allowed us to identify the platforms considered most suitable to represent the variety and diversification of the web-based guidance services.

The selection was organized through a division based on a *fundamentum divisionis* that is considered particularly relevant, which concerns the nature of the promoter, i.e., the subject who conceived, financed, and launched the initiative. Constraints and opportunities related to the different types of promoters influence the investment capacity, the implementation methods, the dissemination of initiatives, and evidently the definition of the general objectives of the DPEG. These elements are essential for the development of services and heavily influence the relationship with users and the educational system as a whole.

Following this classification criterion, we distinguish among the following categories:
- *Institutional DPEGs*, which are promoted and supported by institutions and public bodies
- *Commercial DPEGs*, which are promoted and supported by private entities for profit

- *Third sector DPEGs*, which are promoted and supported by associations, philanthropic organizations, social enterprises, foundations, etc.

To limit the scope of this overview, only two platforms for each promoter were examined. These platforms were selected based on their representativeness, preserving the variety of offerings that manifest in the organizational contexts of the various promoters. After this preliminary selection, the main dimensions that shape the DPEGs were considered in the analysis; these include the following:

- *Content*: breadth and depth of information content
- *Customization*: self-diagnosis tools and/or differentiated access and paths for each type of user
- *Multimedia*: audio, video, images
- *Interactivity*: interaction tools with users (chat, help desk), availability of paths with automatic modifications
- *Services*: integration with other services, virtual and nonvirtual, made available by the same or other providers
- *Dissemination*: capacity to spread
- *Pricing*: the models of tariffication of the services provided (free, freemium, paid)

These dimensions should be understood as mere observation angles and not as evaluation lenses. The purpose of this overview is not to assign a value or, much less, construct a ranking of the different DPEGs available in Italy but rather to explore a field undergoing rapid changes. Moreover, the considered dimensions have different relevance depending on the primary objectives and constraints of the promoter. It is evident that while the revenue generation model — and consequently pricing — is a discriminating factor for the success of a commercial DPEG, an institutional DPEG may estimate its results on other parameters, such as the level of integration with other services, institutions or entities.

Platforms are also changing environments, subject to continuous updates and adjustments (e.g., the introduction of new features) suggested by user feedback and achieved results. Therefore, it is important to refer to the evaluations at the specific moment when the analysis was conducted — in our case, the last quarter of 2021 and the first quarter of 2022. The results of this research are thus provisional and subject to revision shortly, especially considering that the study was conducted at a particular time marked by the COVID-19 pandemic, during which changes in user behaviour (and providers) have shown strong acceleration. An example of this is the evolution of orientation fairs, which, forced to take place online during lockdown periods, capitalized on the experience gained, transforming into DPEGs with continuous and direct access, preserving and making available to users the

best content of the different editions, without losing their constitutive characteristics or the appeal of a fixed-date event.

As long as we account for this temporal placement, we do not consider a limit because it has allowed us to observe a very significant evolution in real time, which we imagine can continue over time and will need to be observed throughout its development.

The collection of empirical material mainly took place through access and, where possible, through registration on each platform and completion of the courses it provided. Navigating through the pages of websites, assuming the role of the user and testing the range of services and interaction methods offered, has allowed us to gain direct knowledge of DPEG. This approach requires a reflective stance. Platforms are complex environments that present a plurality of accesses, giving rise to forms of personalized interaction with the digital device. The modes of this interaction are conditioned by the profile of the user (student, parent, career professional) who undertakes the navigation path as well as by their subjectivity.

4. Types of DPEGs

4.1 Institutional DPEGs

The review carried out did not highlight a particular richness in the offer of institutional DPEGs. They do not seem to be the subject of significant investments by the Ministry, probably due to a precise choice to establish orientation policies according to an articulated system that reaffirms the centrality of the school function and the professionals operating within it. However, there is a greater vitality regarding the promoter role of local authorities. In selecting institutional DPEGs, we have therefore selected *Orientarsi* and *Scuola in Chiaro*, orientation portals of the Miur, and *Salone Permanente dell'Orientamento* promoted by the City of Turin, since they represent respectively the national and local dimensions.

Although *Orientarsi* (https://www.orientamentoistruzione.it/) and *Scuola in Chiaro* (https://cercalatuascuola.istruzione.it/cercalatuascuola/) are configured as independent sites, we will present them jointly, considering their common origin and their substantial complementarity. *Orientarsi* can be considered a free repository of informative content, consisting mainly of the description of the various study paths (diploma and post-diploma), presented in the form of brochures. There is no introductory section describing the school system as a whole and providing general information to users. There are no interactive sections and/or personalized self-diagnosis paths. From *Orientarsi*, one can access *Scuola in Chiaro* via a sequential path that first shows the description of study courses and then the review of indi-

vidual schools. Through *Scuola in Chiaro*, the MIUR intends to «make all available information on Italian schools of all levels and types available to the community in an organic and structured form» (retrieved to website, October 2021). It is therefore a complex system that combines structural data, processes, and performance of over 8,000 primary and secondary schools. It acts as an informative complement to *Orientarsi*, allowing users to search for a school throughout the national territory, to know all the available information on it, such as basic information (address, contacts, number of students, teaching, students' results such as the number of admissions to the following year, state exam grades, Invalsi results compared to benchmarks), to compare institutions with each other, but also to access services such as online registrations. This undeniable wealth of content, however, is assembled with a logic that is not immediately accessible to a public of students and families looking for agile and immediate decision-making support.

Even considered together and in an integrated way, *Orientarsi* and *Scuola in Chiaro* do not fully configure as a DPEG. In fact, despite being web resources that disseminate extensive, accurate and integrated content with other services, they lack some fundamental functionalities. Personalization and interactivity are completely absent, while multimedia is limited to a series of short videos that present some professional areas and a reference to the Ministry's YouTube channel. The platforms' dissemination capacity seems left to the operators' initiative; we have not recorded particularly relevant informative campaigns.

The ministerial approach is often replicated by Local Authorities. Indeed, most cities and regions, even those most active in school orientation services and events (Genoa, Verona, and others), have mainly invested in events (in-person and online), informative offerings, and services on the territory such as orientation desks, failing to seize the opportunity to provide evolved services through the establishment of DPEGs. An important exception seems to be constituted by an initiative of the City of Turin that in 2021 transformed the *Salone dell'Orientamento* into the *Salone Permanente dell'Orientamento*. The availability of web resources that have taken the form of a real platform (https://saloneorientamentotorino.it/) has been added to the usual local events, highlighting the constant availability of features also through an online procedural and interactive mode. This recent evolution is emblematic of the potential that opens up with the transposition of events, content, interactions that have been proposed and enjoyed in person for years, and that now, also driven by the Covid-19 pandemic, contribute to the platformization of the system's service (Poell et al. 2019; van Dijck & Poell, 2018).

Although *Salone Permanente dell'Orientamento* does not deviate from the predominantly informative platform connotation that characterizes *Orien-*

tarsi and *Scuola in Chiaro*, some important peculiarities emerge that make this DPEG service more markedly oriented towards use by students and their families. As an example, the presentation of alternatives in continuing studies through areas of interest rather than through a vertical cataloguing of schools (vocational training, professional institutes, technical institutes, high schools), as happens in *Scuola in Chiaro*. In our view, this can be read as a signal of the desire to guide the choice through «personal characteristics, interests, attitudes, abilities and skills, dreams, fantasies and professional aspirations» (retrieved to website, October 2021), without hierarchical visions of courses of study.

Salone Permanente dell'Orientamento shows a significant ability to exploit the contribution of multimedia with attention to the user and its peculiarities: in the week before the events of the Salon that take place in person, thematic online meetings are held for families (in 2021 dedicated to disabilities) and webinars are released dedicated to foreigners in which the Italian school system is described in detail in various languages (Arabic, Filipino, Chinese, and Romanian).

A particularly relevant aspect of *Salone Permanente dell'Orientamento* is its strong relationship with other initiatives developed by the Piedmont Region with the "Obiettivo Orientamento" project, in a system perhaps not yet fully realized but already indicative of the desire to develop an integrated environment. The availability of services in the territory is extensively illustrated in *Salone Permanente dell'Orientamento*, to favour interpersonal contact with counsellors, without delegating the personalized guidance indication to an algorithm, but instead valuing the relationship with the user. Well-defined roles are assigned to the various components of the system: the DPEG is responsible for stimulating and making constantly updated content available, while in-person events aim for greater communicative effectiveness in collective meetings, and the over one hundred regional orientation offices fulfil the task of valorising the territorial dimension and satisfying requests for more personalized interventions. In the 2020 edition (the last for which data is available), *Salone Permanente dell'Orientamento* counted over 7,600 participants and 21,291 website visitors.

The examination of institutional DPEGs highlights how an informative platform, although presenting features of gratuity, completeness, and transparency, to become a resource of real usefulness for a varied user base, must be accompanied by a friendly interface, a wealth of services (multimedia, interactivity, personalization), and good promotional support for its diffusion. From this point of view, ministerial platforms show unexplored potential. To outline possible developments, for example of *Orientarsi*, it could become an integrated environment at different levels by inserting references to orientation services in the school or local system on the site.

4.2 Commercial DPEGs

To represent the commercial DPEG sector, we have chosen two very different platforms in terms of origin, positioning, business model, and development stage. Although they both refer to a common market logic, they propose orientation services with very different trajectories. *Wecanjob* s.r.l. (https://www.wecanjob.it/) was founded in 2015 by an entrepreneur and a labour consultant and presents itself as a DPEG with a broad purpose, aimed at «producing and offering innovative services with high technological value in the field of socio-economic research and communication on the dynamics of education and work» (retrieved to website, October 2021). *Futurely* (https://www.myfuturely.com/), a start-up launched in 2019 by a group of Italian students graduated from Harvard, MIT, Bocconi, and the Polytechnic University of Milan, presents itself in a focused way as a «platform for digital, guided, and personalized school guidance, focused on self-discovery and options after high school» (retrieved to website, October 2021).

Wecanjob, as part of its offer of differentiated services for a plurality of users, also serves as a platform for connecting students in the orientation phase, the school system, and the world of work. And although the platform's revenue model appears to be primarily that typical of business consulting, with the development of projects dedicated to companies and with a panel of high-profile partners/clients (including MIUR, ANPAL, Fincantieri, FFSS, Agnelli Foundation, Sole 24 Ore Live, Eni, Deloitte, and many others), *WecanJob* also addresses schools, guidance counsellors, students, and their families, providing a wide and well-planned range of free information and services.

The DPEG is organized into four thematic areas: Education, Work, Psychological testing, and News, with the typical articulation of a tool with multiple entry possibilities: school path, job orientation, user (student and worker), HR sector and education. The highest value services include a detailed description of different careers, organized into eleven areas (from Agriculture and Environment to IT and Media), with very specific subcategories, resulting in a total of 221 professions. Each profession is described in general terms, including the educational path to access it, a series of links to organizations and utilities, and, in many cases, a video in which a worker presents their activity. Equally developed is the area of Opportunities and Ads, which includes a daily updated press review on the world of work.

Access to some areas that involve a certain degree of service personalization requires registration: we do not know to what level of datafication (van Dijck, 2014) the DPEG goes, but it is interesting to note that the sections for which it is necessary to provide personal data are precisely the school search, the section in which attitudinal tests are offered, and the gaming area. These are user profiling elements of particular potential value. The Psy-

chological Testing section, after a general introductory part, allows students to access, after registration, two tests for quick and immediate use, allowing them to undertake a basic self-diagnostic path and acquire in-depth information, with the aforementioned implications. We also believe that the multimedia potential of the web and the possibility of integration with external resources outside the platform are well exploited, which we imagine could be useful for its diffusion, of which unfortunately, there is no data available.

If the information area is the main feature of *Wecanjob*, the personalized relationship with the user is instead *Futurely*'s value proposition. DPEG targets two groups: students and high schools, offering orientation programs that both can benefit from (either individually or as a school) within the institutional PCTO paths. Pricing is another area where the two DPEGs differ. *Wecanjob* is completely free, even for the value-added services in their basic version, while optional services offered by third parties are paid.

At the start of its offering, *Futurely* provided users with different levels of service according to a typical freemium model. A free entry option was accompanied by others with more complete services available through subscription payment. The offer scheme consisted of three options: 1) Community (free with registration, 10 hours of seminars corresponding to 10h PCTO), 2) Premium (€125, 20h of seminars corresponding to 20h PCTO), 3) Élite (€225, 30h of seminars corresponding to 20h PCTO). In 2022, Futurely reconfigured its commercial proposal, removing the free Community level, changing the pricing of Premium and Élite to €149 and €239, respectively, and adding the Diamond level, which provides an even more personalized service that includes a personal tutor, support for study plans, and 1-hour weekly calls, available for €699.

Futurely aims to be an innovative model due to the mix of tools and channels it uses in the orientation process. Alongside the self-diagnostic tool, which is claimed to have been developed in collaboration with Harvard and whose algorithm is unknown, integrated services are offered within the PCTO program. Additionally, the DPEG also offers a mentoring program. Mentors — over 200 as of October 2021 (retrieved to website, November 2021) — are recruited from university students and professionals. They are required to commit a very modest minimum of «half an hour per month or slightly more» (ibid.), but they play an important role in the customization of the orientation service, proposing an individual coaching path, not just virtual, implemented by subjects very close to the student target in terms of age and experience, and therefore particularly credible. The use of mentoring, a consolidated training practice in education and work contexts, allows the student a moment of exchange and comparison with their peers to achieve warm knowledge (Slack et al., 2014) through a relationship (Budge,

2006). It is similar to that of student-tutors used by universities for self-promotion during orientation fairs (De Feo & Pitzalis, 2018).

Ultimately, *Futurely* aims to build a network of professionals, mentors, and orientation experts supported by the potential of digital services and inserted into an institutionalized path of PCTO that allows the student's (or school's) economic investment to be finalized. Therefore, *Futurely* presents itself as a DPEG that focuses heavily on personalization and integration of services, leveraging distance interactivity and multimedia, aiming more for depth than breadth of content. In this case, there is no data available on diffusion.

The promoters of the DPEGs we have examined have very different backgrounds and position themselves in an original and potentially distinctive way; they leverage professional skills and previous relationships in the world of work, like *Wecanjob*, or create innovative services, like orientation mentoring, even tackling the challenge of explicit pricing (*Futurely*). The development of new commercial DPEGs seems to demonstrate a growing dynamism in the sector, which is also realized through the presence of actors with distinctive features able to define a specific service model.

4.3 Third sector DPEGs

The analysis of platforms promoted by the third sector has focused on two DPEGs that, despite originating from the same type of organization (the foundation), are positioned at opposite ends of the spectrum, as they are animated by very different purposes and characterized by the specificity of the services offered and the contact channels used. *Eduscopio* (https://eduscopio.it/), focuses exclusively on providing a free tool aimed at choosing school. *Plan Your Future* (https://www.planyourfuture.eu/) instead proposes itself as a multi-purpose platform that aims to offer a variety of orientation services that can be used directly and autonomously by interested users, as well as through integrated projects with schools and other public entities.

Eduscopio, developed in 2014 by the Giovanni Agnelli Foundation, publishes annual rankings of all the secondary schools of the second level in Italy. The schools under comparison are presented in a list in descending order of ranking: by clicking on the name of the school, a summary sheet is obtained. In order to allow a comparison that is truly useful for users, the ranking includes only schools located within a radius of 10, 20 or 30 km (an option set by the user) and among those belonging to the same field of study. Since the choice of secondary school may aim at a subsequent continuation of studies at the tertiary level or at entering the workforce, separate rankings are proposed based on different indicators. With reference to academic outcomes, they are ranked considering the number of credits and the average grades obtained by their graduates in the first year of university.

These variables are assumed to be proxies for the «quality of the educational foundations, study method, and usefulness of the guidance acquired in the schools of origin» (retrieved to website, November 2021). With reference to employment outcomes, two different rankings of technical and professional institutes are instead built based respectively on an index of graduates' employment and an indicator of coherence between studies pursued and work found.

Eduscopio is particularly relevant in a context like the Italian one, in which there is no official public ranking of schools available and in which no penalties are established for institutions that do not meet certain quality standards. For this reason, it constitutes a very significant vehicle of free information, with over 2.1 million unique users since its launch to date (retrieved to website, November 2021). For comparison, we note that third-year students of primary schools, to whom the service is particularly targeted, are just over half a million per year. As even the most critical observers acknowledge, this DPEG therefore performs «an important role in aggregating and making available data that would otherwise be fragmented and difficult to find» (Abbiati & Romito, 2018, p. 1), and does so by pursuing the goal of maximum transparency through the elaboration of certified and official data from the National Student Registry of the Ministry of Education and the Mandatory Communications of the Ministry of Labour and Social Policies. The evidently difficult question remains of how to operate a comparison that is free from external influences of social factors. *Eduscopio* carries out a comparison only between schools that belong to the same field of study, in the belief that this ensures a fair comparison since the educational fields are already effectively stratified by the ability to enter and the socio-economic condition of the students. In the aim of the provider, this approach would ensure that the variance of background within the field of study is very contained (Vuri, 2018).

Eduscopio does not provide information (such as descriptions of the school system) or offer specialized services (such as self-diagnostic tests or multimedia features), nor does it propose an integrated path with other services or actors. However, it shows its usefulness mainly in providing validated and comparable data to those who have already chosen a given educational path and the job opportunities that it provides (pursuing higher education or entering the workforce). These characteristics differentiate it significantly from the other platform that we have selected representing the third sector, *Plan Your Future*, which pursues a completely different strategy by intending to distinguish itself for the completeness of services offered to a variety of users.

This DPEG launched in 2014 is promoted by the Edulife Foundation, an organization with extensive experience in education. It has undergone

growth in functionality and quality, leading to a complete overhaul of the platform in 2018. *Plan Your Future* adopts a dissemination model that focuses on two distinct channels of contact with users, making it possible to use the platform autonomously or within the context of planned educational activities by teachers and counsellors. *Plan Your Future* is therefore available for individual and free use, but it is also made available to schools, associations, and organizations, with a B2B approach that provides for direct forms of remuneration (the entity that benefits from the service remunerates Edulife) or indirect forms (for example, the assisted use of DPEG can be a component of educational programs funded by provincial or regional grants).

Plan Your Future consists of three sections. The first is dedicated to user self-assessment: interests, abilities, and attitudes to discover with tests and questionnaires, the results of which are synthesized into a series of reports that aim to help the student understand themselves and guide them towards the most suitable course of study for their characteristics. In the second section, educational paths and the various solutions offered by the national school system are described in detail, while the final section is dedicated to the in-depth study of multiple professions, with over 180 interviews with entrepreneurs, workers, and professionals. The use of multimedia is extensive and effective, consisting of short videos disaggregated into clips of a few tens of seconds, with a question-and-answer format that benefits the user's ease of use.

DPEG provides for an initial profiling, differentiating the category of user: student (with a submenu for level of study), teacher/counsellor, parent, and company. Through the registration procedure, it is possible to store one's progress, which can be interrupted and resumed, saving the data of the activities already completed. However, DPEG does not propose diversified solutions according to the selected profile; "entries" take place according to areas of interest: Foreign Countries, Work, University, Post-Diploma Training, High School, and School-Work Alternation.

The most direct option for the single user to enter is free, leaving the user full autonomy to decide which questionnaires to take and in what order. The absence of a predefined or recommended path and a synthesis report that aggregates the indications emerging from each test runs the risk of generating some disorientation, making autonomous use by an inexperienced user less profitable.

However, the platform can also be accessed through a guided path organized by content (Stories, Paths, Educational Sheets, Questionnaires) or by following a progressive advancement that automatically adapts to the user's profile. In this regard, for example, the path that allows for a deeper exploration of continuing education alternatives to university is very interesting. It is an interactive presentation that allows you to explore all possible solu-

tions (from ITS, to AFAM, to Law Enforcement), with successive levels of in-depth analysis, also obtained through links to the websites of the various institutions.

The analysis of *Plan Your Future* highlights the wealth of content offered for free, especially interactive and multimedia content, as well as the interest and involvement generated by an open and user-centred approach, particularly in the area of questionnaires that offer a wide range of customization options. On the other hand, the immediate usefulness of the service, when used independently, is partially compromised by the fact that the advice and indications for choosing a school and profession are not fully integrated: a personal guide, possible in an assisted use format, seems in fact an appropriate solution to fully exploit the potential of the platform.

As we have seen by examining two platforms that position themselves in some way at opposite ends of the orientation offer, the third sector presents itself as a dynamic subject, capable of offering quality, sustainable services based on precise lines of distinctiveness and development, in one case focusing on focus and transparency, in the other on the completeness of the offer and the diversification of access channels to the public.

4.4 A different perspective

The description of the different DPEGs operating in the Italian context, carried out using the type of promoter as a *fundamentum divisionis*, was useful for highlighting a fundamental ordering criterion for understanding how DPEG contribute to the creation of an arena where they offer services that are characterized differently in terms of pricing, usability, content, and personalization. However, the recognition of the existence of a plural arena also suggests an analysis of DPEGs that identifies their positioning along two axes:

- "Demand"/"Offer": positioning according to this axis refers to the focus of the DPEG. It can be aimed at the user ("Demand"), providing services for analysing aspirations and attitudes and guiding choices, or it can be aimed at the educational system and the world of work ("Offer"), providing descriptions and classifications of schools and professions.
- "Autonomy"/"Integration": positioning according to this axis refers to the relationship of the DPEG with the educational system. It can be completely independent or tend towards integration with the orientation services offered by the school system.

According to this characterization, DPEGs such as *Orientarsi*/*Scuola in Chiaro* and the Salone Permanente can be understood as components of an integrated orientation system in which institutional actors operate with whom they tend to interface. *WeCanJob* and *Eduscopio*, on the other hand, can be considered DPEGs that provide autonomous services focused on

deepening the educational offer. *Futurely* also provides autonomous services aimed instead at deepening the demand expressed by users. Finally, *Plan Your Future* shows an intermediate positioning, in which a trend of increasing interest (also commercial) for greater integration with the institutional orientation system is observed.

The attempt at synthesis carried out by positioning the examined DPEGs according to the "Demand"/"Offer" and "Autonomy"/"Integration" axes also gives us an instantaneous representation of a situation in motion.

Fig. 1 – Type of digital platforms for educational guidance
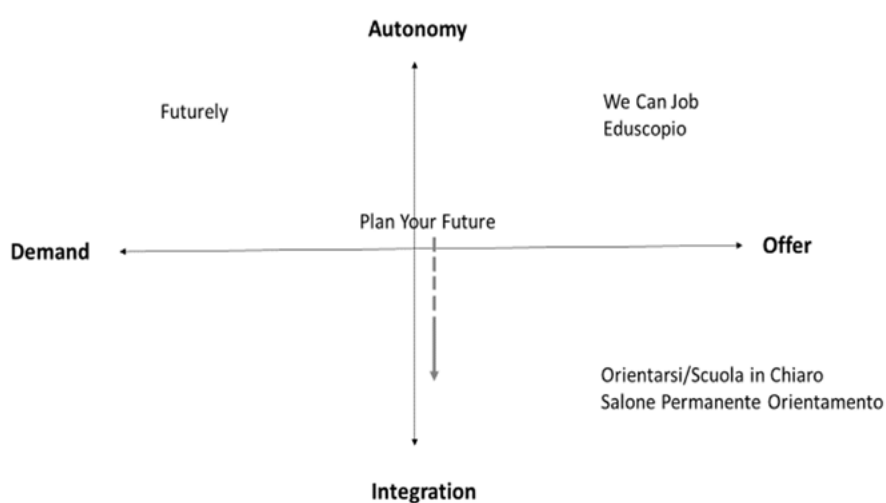
Note: Positioning of some guidance platforms along the "Demand"/"Offer" and "Autonomy"/"Integration" axes

5. Discussion

5.1 Main critical elements

The criticisms raised by the spread of DPEGs reflect the typical issues related to the phenomenon of 'platformisation' and, in particular, to the phenomenon of the 'platformisation of education' (Selwyn, 2015; van Dijck & Poell, 2018). These criticisms mainly underline the lack of transparency regarding the collection, processing, and extraction of value from personal data and the risk of aggravating educational inequalities.

The opacity of DPEGs contributes to circulating the widespread rhetoric that platforms are localized infrastructures that are organized in an egalitarian manner with a bottom-up process. Gillespie (2017), one of the most attentive scholars in the field, highlights the effectiveness of the term 'platform'

and the metaphor that underlies it: suggesting a level playing field, where actors confront each other openly, favours underestimating the problematic nodes of the structure of platforms, which actually turn out to be centralized, not flat, ultimately an arena where subjects with sometimes conflicting objectives operate and where the responsibilities of the actors can be obscured. This is exactly what emerged from this research, the main constraint of which was precisely the unavailability of certified data. Even the DPEGs examined in this study — except for *Eduscopio* — are systems guided by algorithms with unknown formulas and structures. The complex of interactions that occur in DPEGs allows for user profiling, but in most cases, the information collected through platform navigation paths and/or the completion of one or more questionnaires is processed based on logic and processes that are not described in detail or that refer to theoretical models whose implementation and availability are unknown. In addition, profiling allows for the creation of an economically valuable database with uses that are not declared. Furthermore, except for the aforementioned *Eduscopio* and, at least partially, *Plan Your Future*, it is not possible to access general information (e.g., number of accesses) and even less to find effectiveness indicators (e.g., user satisfaction, matching success). This circumstance mostly forces users to rely on what is expressed in the programmatic intentions of the promoters of DPEGs or on the declarations published on websites for marketing purposes.

With this in mind, it is not surprising that the debate on DPEGs in Italy is lively and mostly critical in nature. According to these studies, the spread of DPEGs has further accentuated the processes of measurement, classification, and ordering that have been taking place in the educational field for some time and that have been amplified through so-called digital governance (Romito et al., 2019, Landri & Vatrella, 2020). The DPEG *Eduscopio* has been the subject of particular critical attention, despite the transparency of the analysis method followed and the indication of the data sources, precisely due to its explicit ranking purpose. Criticisms have focused on both methodological and substantive issues. The robustness and validity of the indicators used have been questioned, as they only rank the distribution among schools of students with different abilities, instead of measuring the quality of schools (Raitano, 2016). The usefulness of this ranking itself would also seem limited: those who live in small towns do not have an actual choice of different schools. Moreover, the observation that the use of *Eduscopio* is higher in wealthier municipalities and characterized by a higher level of education of the population would confirm that information favours those who are already advantaged. However, the positive correlation between the level of use and the variance of the quality index of schools signals a rational use of the tool by users: *Eduscopio* is more commonly used where it is most useful, that is, where the differences between schools are more pronounced and

where there is a possibility of choice (Bordignon et al., 2021), but probably also where the media has a greater resonance with the platform. Finally, some critical observations have focused on the ranking effect, which, far from stimulating better performance, would instead contribute to strengthening the schools at the top and weakening those at the bottom, distancing students with less potential and triggering a process of continuous deterioration, which could spiral into a negative feedback loop also involving teacher mobility. Ultimately, the availability of a ranking would accentuate the effects of further segmentation (Abbiati & Romito, 2018).

5.2 Developments

Given the general trend in the diffusion of educational platforms, it is not difficult to imagine a widespread expansion of platforms dedicated specifically to guidance in the future. The factors that seem to be linked to this expansion primarily refer to two potentialities: economic and investment capacity and networking capacity.

With respect to economic and investment capacity, *Futurely* represents a significant case for our analysis because, for the first time in Italy, a guidance platform has been able to present itself to the market with the characteristics and attractiveness of an innovative start-up, managing to raise significant capital (1.5 million dollars) from top-level professional investors. However, the recent upgrade and repricing strategy is not immediately interpretable: *Futurely* has abandoned free access and increased Premium and Elite fees because the platform is profitable and aims to maximize profit, or, on the contrary, because it is not profitable and has not paid off its costs. Moreover, economic investments do not always lead to certain outcomes: *Plan Your Future* has tried to consolidate its presence in the market through continuous improvement in the user experience of the platform, which was completely restructured in 2018, but it has only partially resulted in an increase in contacts and users (in 2020, 3,754 new registered users, retrieved from Fondazione Edulife Social Balance Sheet).

However, it should be considered that sharing resources online — for example, by having permission to link one's service to other platforms through a link — can allow users to access information in a simple and guided way, making it possible, within certain limits, to contain costs while remaining within a quality service that is always updated. For example, *Futurely* allows its users direct access to *Eduscopio*. The other commercial platform examined, *Wecanjob*, also has a strength in the use of third-party content, which allows the user to have up-to-date information without incurring particular burdens for the provider. This is the case, for example, with news regarding ITS, obtained through a connection to the website https://sistemaits.it/.

Plan Your Future, a third sector DPEG, has also established a network of contacts through which it makes content provided by third parties available to its users. *Plan Your Future* has also focused on diversifying the channels for activating the platform. In fact, in addition to direct access for students, families, and educators, its services can also be used through joint initiatives with schools and third sector operators as part of specific local guidance programs. It is precisely the development of institutional partnerships, such as that with the Friuli-Venezia Giulia Region, that gives *Plan Your Future* the greatest chance of dimensional growth.

In reflecting on DPEG developments in Italy, it is necessary to consider that even with a solid approach, years of experience in the field, and substantial investments, there are significant difficulties in addressing an issue as complex as guidance and achieving satisfactory results. The sustainability strategies, including economic ones, pursued by the various promoters, in terms of access channels, partnerships, pricing, and focus on specific content, can contribute to the better characterization of the services provided.

5.3 A possible balance?

The analysed DPEGs, matching the model of educational platforms in general, can include very different situations but are united by the presence of a technological base (software) and the provision of information, tools, and resources to an active audience of students, parents, teachers, and other interested parties, who can potentially achieve a sort of self-referential autonomy as self-sufficient managers at all stages of the orientation process. The provision of the service can occur independently, assisted or collaboratively, being adapted to users' needs; precisely this flexibility is a factor that facilitates its diffusion, even within consolidated and institutionally governed processes (Cornali & Cavaletto, 2020). This penetration of DPEGs could be defined as a 'process of infiltration', referring to what was observed by van Dijck et al. (2018), who affirm that «platforms [...] do not *cause* a revolution; instead, they are gradually infiltrating in, and converging with, the (offline, legacy) institutions and practices through democratic societies are organized» (ibid., p. 2). In fact, there is a trend towards the infiltration of DPEGs in institutional practices. In this regard, as aforementioned, the case of *Plan Your Future* is exemplary, as it was chosen by the Friuli-Venezia Giulia region for the 2021-2022 school year as a component within the regional digitalization plan to support orientation initiatives, aiming for the assisted use of functionalities and the personalization of orientation contents based on the school's characteristics and its students. The adoption of the DPEG involves an initial phase of training dedicated to teachers in lower secondary schools to subsequently arrive at an assisted use of the DPEG in classroom activities with students as part of an established orientation

program. This assisted use could facilitate a more extensive and fruitful use of the platform, overcoming the observed obstacles constituted by the preponderance of stimuli and the articulation of proposed paths. It is believed that Plan Your Future can be usefully integrated with the ordinary guidance activities provided by schools. The sharing of practices and contents could constitute a starting point for further mutual valorization. On the one hand, in fact, the expansion of the user base would allow for improving *Plan Your Future* contents, which require continuous updates; on the other hand, the use of a DPEG would constitute an additional resource with which to refine orientation services provided in schools. If this happens, we will appreciate it in the near future.

However, at the moment, in our view, there is not yet an "inextricable relation between online platforms and societal structures" (van Dijck et al., 2018, p. 2) concerning school guidance. However, the prospect of such infiltration raises some concerns regarding the governance of institutional processes, as it would undermine the ongoing friction between users' knowledge and expression objectives and the platform managers' profit objectives. These fears would be dispelled if the 'process of infiltration' becomes a process of 'assimilation and accommodation' — in which the DPEG becomes an actual added value, and above all, critical elements related to its use are placed under control. Therefore, we need to understand what the stage of evolution of the context is, how this 'infiltration' is taking place, what policies noninstitutional actors are implementing to occupy the spaces that are becoming available, and what policies institutional actors are implementing to govern this process.

An effective rebalancing element could be constituted by a greater weight of public management in the provision of DPEGs. The national guidelines for permanent guidance provide for the integration of contributions from public and private entities competent in guidance. In our view, this should not be understood as a segregation of areas (where the private/third sector is identified as an innovator, even technologically, and public management is responsible for ordinary activities) but as effective reciprocal fertilization in contestable sectors. Overall, however, while valuing exceptions such as the *Salone Permanente dell'Orientamento* experience, we must conclude that the public sector has shown rather limited interest in DPEGs thus far, with the result of not seeing the construction of a true national guidance platform completed, which can be used autonomously or integrated with other services available to students and their families. This gap appears significant, as the presence of independent actors plays a crucial role in ensuring the plurality of voices in our contemporary platform society: «[institutions] and civil society actors need to be supported morally and financially because they are crucial in the procurement of a balanced ecosystem if we want to

maintain checks and balances on states and corporations» (van Dijck, et al. 2018, p. 166).

6. Conclusions

This work presents an overview of some of the main online platforms offering guidance services to highlight their uses, potential, and limitations, starting from the purposes of guidance itself and the ministerial indications that have outlined its overall structure and actions over time. The context of guidance seems to be characterized by limited central coordination and the presence of many operators pursuing different, sometimes conflicting, purposes, giving rise to a wide variety of initiatives such as the dissemination of information, the distribution of materials, and the realization of activities – assisted or not by the intervention of professional operators — to which Open Days, Fairs and other initiatives are added. This is a contested arena in which demographic dynamics will become increasingly competitive. The phenomenon – not new but growing — to be considered is in fact the reduction in the number of students, which has already decreased by 4.7% in the last five years and is expected to further contract by over 720,000 units in secondary schools by 2032 (CENSIS, 2022). This circumstance could induce schools to implement self-conservative strategies, which would translate into increasingly aggressive promotional activities to the detriment of the quality of information and the protection of the interested parties. In the absence of a central directorate that ensures a correction of what we have defined as the 'dark areas' of guidance, the already unsatisfactory outcomes of our educational system could therefore worsen in terms of students both acquiring skills and entering the job market.

Therefore, in light of what has been observed, it seems difficult to outline in perspective what role DPEGs (digital platforms for educational guidance) could play within the national policies that see the school as the central actor, assigned the role of promoter of an integrated connection of the multiple subjects of the educating guidance community, but of which appreciable outcomes are not always observed.

Adopting an intentionally favourable and confident perspective, a positive role for DPEGs could be recognized, thanks to the diversified approach that characterizes them. DPEGs oriented to supply could contribute to the dissemination of transparent information based on a wide base of certified data and organized in an easily usable interface. DPEGs that focus on the demand side could aim at a highly personalized professional service that helps users and their families identify attitudes and aspirations, overcoming the biases that are sometimes observed in the drafting of guidance councils by the school.

A certain coherence of the development trajectories of the different models of DPEG can thus be glimpsed. DPEGs that stand out for their vertical approach, such as *Eduscopio* — and, potentially, *Futurely* (but in this case with the strong issue of the medium-term sustainability of pricing) — seem to pursue strategically good impact goals autonomously. DPEGs that follow a development line oriented towards multichannel and cooperation with institutional subjects (particularly PYF) could instead apply to play the role of glue that the public actor has not pursued with the necessary conviction — albeit with due exceptions, as demonstrated by the case of the *Salone Permanente dell'Orientamento* — integrating the actors of the territory and ensuring support consistent with ministerial guidelines but of higher professional quality and, as assisted, easily accessible.

The presence of diversified subjects in the guidance arena and the expansion of online interactions recorded during the COVID-19 pandemic have made DPEGs a crucial component with nonneutral effects in the evolution of guidance services in Italy. This presence will be effectively profitable if DPEGs can offer distinctive services and complementarily seek a more advanced level of synergy with institutional bodies, which in turn are called upon to guarantee the direction of the guidance system as a whole.

References

Abbiati, G., & Romito, M. (2018). Per sempre ultime, scuole condannate dalle classifiche. *LaVoce.info*. Retrieved from https://lavoce.info/archives/55509/per-sempre-ultime-quelle-scuole-condannate-dalle-classifiche-2/.

Argentin, G., Barbieri, G., & Barone, C. (2017). Origini sociali, consiglio orientativo e iscrizione al liceo: Un'analisi basata sui dati dell'Anagrafe Studenti. *Politiche Sociali*, 1, 53-74.

Bonica, L., & Olagnero, M. (2011). Come va la scuola?: Genitori e figli di fronte a scelte e carriere scolastiche. Roma: Infantiae.Org Editore.

Bonizzoni, P., Romito, M., & Cavallo, C. (2016). Teachers' Guidance, Family Participation and Track Choice: The Educational Disadvantage of Immigrant Students in Italy. *British Journal of Sociology of Education*, *37*(5), 702-720.

Bordignon, M., Carapella, P., & Turati, G. (2021). Informazione, scuola e qualità dei servizi pubblici: uno studio di caso. *Stato e mercato*, 1, 17-139, DOI: 10.1425/101448.

Budge, S. (2006). Peer Mentoring in Postsecondary Education: Implications for Research and Practice'. *Journal of College Reading and Learning*, *37*(1), 71-85. DOI: 10.1080/10790195.2006.10850194.

Canaan, S. (2020). The Long-Run Effects of Reducing Early School Tracking. *Journal of Public Economics*, 187, 104206. DOI: 10.1016/j.jpubeco.2020.104206.

Cavaletto, G.M., & Cornali, F. (2020). Emerging Platform Education: What are the Implications of Education Processes' Digitization? In A. C. Da Silveira De Moura, P. Cunha Reis, M. Natália & D.S. Cordeiro (Eds.) Handbook of Research on Determining the Reliability of Online Assessment and Distance Learning (pp. 359-378). Hershey, PA: IGI Global.

CENSIS (2022). 56° Rapporto sulla situazione sociale del Paese. Roma: Franco Angeli.

Checchi, D. (2010). Uguaglianza delle opportunità nella scuola secondaria italiana. *Programma Education FGA Working Paper*, 3, 25.

Council of the European Union (2004). Draft Resolution of the Council and of the Representatives of the

Member States Meeting within the Council on Strengthening Policies, Systems and Practices in the Field

of Guidance throughout Life in Europe. Brussels, 18 May 2004.

Council of the European Union (2008). Council Resolution on Better Integrating Lifelong Guidance into

Lifelong Learning Strategies. 2905th Education, Youth and Culture Council meeting. Brussels, 21 November 2008.

De Feo, A., & Pitzalis, M. (2018). Le fiere dell'orientamento. La scelta come dramma sociale e come mercato. *Etnografia e ricerca qualitativa*, 2, maggio-agosto, 251-275.

DiGiacomo, D., Shaffer, G., Pandya, J.Z. & Sefton-Green, J. (2019). Platforms, Pedagogies, and Privacy: How the Platformization" of Education is Pedagogicizing Home-school Relations. Poster proposed at the Connected Learning Summit. Irvine, CA.

Dollmann, J. (2016). Less Choice, Less Inequality? A Natural Experiment on Social and Ethnic Differences in Educational Decision-Making. *European Sociological Review*, *32*(2), 203-215.

European Commission (2013). Reducing Early School Leaving: Key Messages and Policy Support. Final Report of the Thematic Working Group on Early School Leaving, November 2013.

Gillespie, T. (2017). The Platform Metaphor, Revisited. The Humboldt Institute for Internet and Digitalisation, 24 August 2017. Retrieved from https://www.hiig.de/en/the-platform-metaphor-revisited/.

Guetto, R., & Vergolini, L. (2017). Educational Expansion without Equalization: A Reappraisal of the 'Effectively Maintained Inequality' Hypothesis in Children's Choice of the Upper Secondary Track. *European Societies*, vol. 1, 1-27.

Harris-Bowlsbey, J.A. (2013). Computer-assisted Career Guidance Systems: A part of NCDA History. *The Career Development Quarterly*, 61, 181-185. DOI: 10.1002/j.2161-0045.2013.00047.x.

Landri, P. (2018), Digital Governance of Education. Technologies, Standards and Europeanization of Education. London: Bloomsbury.

Landri, P., & Vatrella S. (2019). Assembling Digital Platforms in Education Policy. A Comparative Analysis of Scuola in Chiaro and Eduscopio. *Scuola Democratica*, 3, 529-550.

Law, B. (1996). A Career-learning Theory. In Watts, A.G., Law, B., Killeen, J., Kidd, J.M. & Hawthorn, R., Rethinking Careers Education and Guidance: Theory, Policy and Practice (pp. 46-71). London: Routledge.

Luciano, A., & Romanò, S. (2017). Università e lavoro. Una misura del mismatch tra istruzione e occupazione. *Scuola Democratica*, 2, 319-341.

Ministry of Education (Miur) (2014). Linee guida nazionali per l'orientamento permanente. Prot. n. 4232 del 19/02/2014.

Meghir, C. & Palme, M. (2005). Educational Reform, Ability, and Family Background. *The American Economic Review*, *95*(1), 414-424.

Organisation for Economic Co-operation and Development (OECD) and European Commission (EC) (2004). Career Guidance. A Handbook for Policy. Paris: OECD Publishing.

Poell, T., Nieborg, D. & van Dijck, J. (2019). Platformisation. *Internet Policy Review*, *8*(4), 1-13. Retrieved from https://doi.org/10.14763/2019.4.1425.

Raitano, M. (2016). La classifica dei licei in Italia: i rischi dei ranking mal fatti. *Eticaeconomia*, n. 55. Retrieved from https://www.eticaeconomia.it/?s=Raitano+la+classifica+dei+licei.

Romito, M. (2016a). Una scuola di classe. Orientamento e disuguaglianza nelle transizioni. Milano: Guerini e Associati.

Romito, M. (2016b). I materiali dell'orientamento scolastico – analisi di una tecnologia di governo. *Scuola Democratica*, 1, 69-91.

Romito, M., Gonçalves, C., & De Feo, A. (2019). Digital Devices in the Governing of the European Education Space: The Case of SORPRENDO Software for Career Guidance. European Educational Research Journal, 19, 3, 1-21. Retrieved from https://doi.org/10.1177/1474904118822944.

Selwyn, N. (2015). Data Entry: Towards the Critical Study of Digital Data and Education. *Learning, Media and Technology*, *40*(1), 64-82, DOI: 10.1080/17439884.2014.921628.

Slack, K., Mangan, J., Hughes, A., & Davies, P. (2014). 'Hot', 'Cold' and 'Warm' Information and Higher Education Decision-making. *British Journal of Sociology of Education*, *35*(2), 204-23.

van Dijck, J. & Poell, T. (2018). Social Media Platforms and Education. In J. Burgess, A. Marwick & T. Poell (Eds.), The SAGE Handbook of Social Media (pp. 579-591). London: SAGE.

van Dijck, J. (2014). Datafication, Dataism and Dataveillance: Big data between Scientific Paradigm and Ideology. *Surveillance & Society*, *12*(2), 197-208. DOI:10.24908/ss.v12i2.4776.

van Dijck, J., Poell, T., & de Waal, M. (2018). The Platform Society. Oxford University Press.

Vuri, D. (2018). Ranking scolastici e scelte familiari: prime evidenze da Eduscopio. Fondazione Agnelli, n. 58. Retrieved from https://www.fondazioneagnelli.it/wp-content/uploads/2018/05/WP58-Vuri-Ranking-scolastici-e-scelte-familiari.-Prime-evidenze-da-Eduscopio-05-2018.pdf.

Watt, G. (1998). Supporting Employability. Guides to Good Practice. Dublin: Eurofound.

Watts, A.G., & Fretwell, D.H. (2004). Public Policies for Career Development. Case Studies and Emerging Issues for Designing Career Information and Guidance Systems in Developing and Transition Economies. Washington: The World Bank.

Williamson, B. (2019). Code Acts in Education: Platform Teachers. Retrieved from: https://nepc.colorado.edu/blog/platform-teachers.