



Administrative Support System

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An Integrated Approach to Open, Distance, and Digital Education Ecosystems

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Abstract

Administrative support provided to teachers, learners, and staff is critical for ensuring the quality of the teaching and learning experience in open, distance, and digital education (ODDE). Having been seen for a long time as a peripheral function, administrative support is now recognized as playing a decisive role in suppressing student dropout, improving teaching effectiveness, and promoting learning success. This chapter examines in detail how administrative support systems are organized and should be redesigned to efficiently assist stakeholders. This analysis is conducted in the framework of the ongoing digital transformation process of higher education institutions (HEIs). Reference models for

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implementing digital learning innovation are described and analyzed. The chapter proposes that administrative student support in ODDE should not be organized as a separate autonomous structure. It is argued that in such complex and unstable innovation-driven institutional environments, the learner, faculty, and staff administrative support system should be designed as a hub of resources and services operating within an open and flexible learning ecosystem. It is suggested that multidisciplinary teams are set across the HEIs to collaboratively design, deliver, and support ODDE provision. Administrative staff professional development is also suggested to be reorganized in this innovative framework.

Keywords

Open education · Distance education · Digital education · Online learning · Administrative support · Learner support · Digital transformation · Higher education institutions

Introduction

Digital technologies have significantly transformed the way we live, work, learn, and exercise our citizenship. Mobile internet associated with an increasingly powerful and cost-effective computing and data sharing capability has made it possible to establish networks and communities, learn and develop skills, build and disseminate knowledge in an increasingly agile and autonomous way. Recognizing this fact, higher education institutions (HEIs) have been steadily moving from the traditional face-to-face classroom environment to an increasingly hybrid or fully digital territory (Teixeira & Mota, 2020; van der Zwaan, 2017). HEIs realized the future survival and expansion of their educational provision would depend largely on their ability to provide online education (Bates, 2019; Seaman, Allen, & Seaman, 2018). Many have dramatically increased their provision of fully online courses as a result of the expansion of massive open online courses (MOOCs) offering. The need to upscale access to quality higher education worldwide as well as widen participation has contributed substantially to consolidate this trend.

An ecologically friendly social and political atmosphere has favored the development of more sustainable formats of education delivery as it is the case of open, distance and digital education (ODDE). In recent years, open education has become a core component of open science which extended the principles of openness to the whole research cycle. An open knowledge ecosystem is thus being built with important implications on how the higher education, research, and innovation landscape organizes and operates (Burgelman et al., 2019; Teixeira & Mota, 2020).

The movement toward the mainstreaming of ODDE was dramatically accelerated by the global impact of the SARS-CoV-2 pandemic (Witze, 2020). However, the widespread implementation of emergency remote teaching and learning – ERT&L (Czerniewicz et al., 2020; Hodges, Moore, Lockee, Trust, & Bond, 2020) resulting

from the forced closing down of campuses has demonstrated how most HEIs were unprepared for this new scenario. Having the time and the resources to move beyond a crisis mitigation stage, they need to speed up the process of digital transformation (Dx).

In order to be successful, this transition requires HEIs not only to adjust their methodologies and procedures, but also to transform their organizational cultures (Grajek & Reinitz, 2019). This implies changes on the overall institutional governance and infrastructure as much as on how technology is integrated in educational practices. Administrative support, which has previously been seen as a peripheral function, plays a central role in HEI's organization nowadays and has become essential for meeting the new demands and assuring the success of teaching and research (Ryttberg & Geschwind, 2017).

Administrative support, once defined as the institutional assistance given to the design and delivery of quality education programs and courses, can currently be best described as the institutional capability to support the participation of all in quality research, teaching and learning experiences. It involves policies, finance, supply chain, human resources development and management, research administration, student affairs, as well as digital technologies to provide support services in an efficient, effective, and sustainable way to their stakeholders, that is, learners, faculty, and staff.

As HEIs embrace ODDE, by that changing their traditional mode of providing education, the way learner as well as teacher and staff support is offered must be transformed as well. Distance and traditional learners, for instance, each have unique support needs which should be met with differently designed services. Sánchez-Elvira Paniagua and Simpson (2018) claim that non-academic learner support in ODDE should aim particularly to developing learners organizational and affective skills. It deals therefore with the emotional stresses of study and staying motivated. Administrative learner support is usually provided in the form of funding, guidance, oversight, and other kinds of assistance (Meyer & Barefield, 2010; Ryan, Hodson-Carlton, & Ali, 2005). As such, it can include both action taken *with* a learner and action taken *for* a learner, including such diverse areas as:

- Program policies and regulations
- Student recruitment, admission and enrolment
- Academic counselling
- Financial aid, billing and payment
- IT infrastructure policies and procedures
- Human resources training and professional development
- Course materials and learning resources creation and sharing
- Libraries, archives, and repositories
- Student assessment and certification
- Student mobility and international exchange
- Student employability and further academic options
- External and internal communication
- Estates and facilities management (particularly in the case of campus-based HEI)
- Quality assurance

All these operations affect in some way the quality of the individual learning experience and consequently need to be adjusted to the specific needs and requirements of ODDE learners (Sánchez-Elvira Paniagua & Simpson, 2018; Tait, 2014; Zuhairi, Karthikeyan, & Priyadarshana, 2020; Aoki & Pogroszewski, 1998). The same applies to the respective support positions which also need to be redesigned, adjusted, and provided with timely training so that they can adequately fulfill the requirement for the services they provide in an online environment (Restauro, 2004). To facilitate this transformation, administrative support should be provided in the framework of a holistic institutional innovation strategy which promotes synergies across the HEI and involves all academic bodies and operational sectors (Teixeira, Bates, & Mota, 2019).

Also, as clearly demonstrated in the context of the pandemic, ODDE teachers feel much more engaged if they can rely on a strong infrastructure which supports their technological, economical, and emotional needs. Faculty members who perceive that they have the backing of a fully developed and well-designed support structure for ODDE, are rarely apprehensive about accepting the challenge. In cases where faculty apprehension abounds, it is usually due to a serious lack of administrative support in one or more critical areas (Meyer & Barefield, 2010). The online teaching needs of faculty often go unmet by the institutional infrastructure because administrators frequently fail to understand how technology rapidly changes the way learning must be designed and instruction must be delivered to meet learner demand. Technology also has great impact on other factors such as student admissions, registration, faculty, and staff development; and faculty workload are impacted tremendously by ODDE, yet HEIs are usually unprepared to handle the changes (McQuiggan, 2007). As demonstrated by ERT&L, distance and digital education programs are often developed in haste to meet growing demand, but without assuring a proper infrastructure, policies, and administrative support (Tallen-Runnels et al., 2006; Teixeira, Bates, & Mota, 2019). In this chapter we discuss successful models and practices for organizing and running administrative support in ODDE, focusing in particular on the main stakeholder – learners.

Applying a Holistic Approach to Institutional Change

The first step to assure a sustainable ODDE provision is to assure strong governance support to educational innovation. Leadership across HEIs needs to focus on promoting ODDE and commits to change of educational practices, which implies that the leaders of HEIs need to develop a holistic vision which can inspire the stakeholders, be a reference for strategic planning, and engage all actors in the process.

Literature embodies many different models and strategies which describe and explain how learning innovations and educational change may be successfully introduced. Most of these models are grounded on empirical evidence. In relation to ODDE integration specifically, we can point out four main approaches: grassroots bottom-up, network-based, strategically driven, and collaborative (Laird, 2004). The first approach identified by Laird follows a grassroots inspiration and has been

prevalent in most HEIs. In this scenario, individual faculty members develop innovative educational practices in complete autonomy and in an undisruptive scenario. Their initiatives do not fall into any institutional strategy and are not supported by institutional policy. As such, faculty members have exclusive control over how their ODDE program or course is created and delivered and receive no specific contribution from administrative support. This model although providing large freedom for experimentation, but lacks capability to replicate and disseminate innovative practices.

A variant of the described model applies to when these bottom-up individual initiatives are part of networks or special interest groups. Teams of teachers support each other in conducting an innovative educational practice. They share the tasks and collaborate in disseminating the results. As each department in the institution operates independently from any other departments administrative support cannot be provided systematically. This model limits the impact, overall quality, and transferability of results.

A more successful and resilient approach is to engage the HEI in a strategically driven transformation of its educational practices. This could be organized applying a bottom-up model, in which individuals or small teams of volunteers conduct innovative educational practices with the special support of dedicated institutional R&D centers or support services. This approach is what Laird calls Distance Education model. A specialized unit or sub-department is established and operates independently from the rest of the campus, having no real connection to the traditional academic mission of the campus. In this model, administrative support is provided in a systematic way channeled through the provision of services to the specialized structures. In fact, since the 1960s, HEIs have been establishing Teacher and Learning Centers (TLCs) designed to support learning innovation. These units intend to act as hubs for educational reforms (Pérez-Sanagustín et al., 2022; Singer, 2002). However, they traditionally focused their activities as labs for the improvement of teaching skills and transfer of knowledge on student learning. This configuration is only efficient to support pockets of incremental innovation but does not escalate easily.

Recent literature (Holt, Palmer, & Challis, 2011; Pérez-Sanagustín et al., 2022) has suggested a significant shift in the TLCs design concept. It enhances the need for assuring that other major stakeholders, such as learners or managers, also participate in the activities. It emphasizes the strategic role of TLCs as the designers and sustainers of open education networks encompassing powerful forms of learning both across, and up and down the organization. This clearly represents a more holistic and transformational approach as it is based on a collaborative-based model.

Literature finds teamwork to be vital for an effective implementation of ODDE (McKenzie, Ozkan, & Layton, 2006; Restauri, 2004). The most successful way to induce disruptive educational change in the digital age lies on system integration and applying a teamwork approach where experts from each critical area of the infrastructure are intimately involved in the developmental process throughout its course (Laird, 2004). In this model, all the campus resources and services are being involved and traditional instruction is unified with online learning design and

facilitation. This generates a synergistic effect that allows technology, infrastructure, and resources to be shared by all faculty and staff. The online learning and the traditional learning infrastructure are combined and share resources equally, generating a true learning ecosystem. In such context, all sorts of administrative support (from policies to financial management and certification) are provided to relevant stakeholders according to their needs and at each stage of institutional development, in a coordinated, strategically driven, and network-based way.

Such a system approach which is particularly suited to ODDE can be used either in a stand-alone version or in the framework of an inter-institutional collaboration network which fosters organizational learning even further (Srivastava & Frankwick, 2011). This is the reference model adopted for example in the Portuguese distance higher education regulation (MCTES, 2019). In such a scenario, different and even competing HEIs form alliances to support each other, sharing know-how, infrastructure and resources, as well as jointly developing new educational provisions. External collaboration could also extend to specialized public agencies or nongovernmental organizations which can share know-how and resources for addressing specific target groups (e.g., students with special educational needs or disability – *SEND*) (Behling & Linder, 2017; Brinthaup et al., 2019).

The collaboration methodology maximizes efficient use of administrative and technological resources, minimizes redundant systems and costs, and allows faculty to provide better quality instruction in a more productive atmosphere (Paolucci & Gambescia, 2007). Administrative support services are either realigned to support ODDE or new personnel are hired to provide the specific support needed. A collaborative methodological process may seem more expensive and difficult to organize and implement at the onset, but in the long run it can save critical faculty from resigning in frustration and encourage more student enrolment (Meyer & Barefield, 2010). Evidence shows this collaboration approach to be the best for assuring sustainable disruptive change of educational practices.

Aligning Administrative Support with a New Learning Ecosystem

It is hard to imagine a well-functioning HEI without well-functioning administrative support services. This is critical for assuring a successful experience for both learners and faculty. It should be noted though that the notion of learner support is relatively recent. It was absent in the first generation of correspondence education. As Tait (2014) explained, this idea of learner support only became an important part of ODDE theory and practice from the second generation onwards, when the pedagogical foundations of open and distance education shifted toward the recognition of the humanity of the individual student, and the identification of the affective dimensions of the learning experience, along with the cognitive and systemic dimensions (Tait, 2000). As a result, learner support became paramount and learner support systems came to be seen as critical elements for ensuring learner retention (Compura, 2003; Krauth, 1999; Aoki & Pogroszewski, 1998). The model inaugurated by the Open University (OU UK) in Europe, in the early 1970s, and soon replicated across the

world, gave the tutor the role of providing individual support to students both subject specific and supportive of progress and success. This support included assistance related to administrative and other systemic issues.

In the analogue age, support to ODDE learners meant the HEIs should be able to assure some sort of geographic proximity to learners. Inspired by the OU UK model, large-scale open and distance education universities separated the curriculum creation system from the learner support system. Consequently, they established large networks of local or regional study centers as well as examination centers spread across their territories which provided proximity support to learners. As HEIs moved online, learner support become an integrated part of the overall curriculum design and learning and teaching system, and no longer a separate subsystem in its concerns, professional sub-groupings, and scholarly literature (Tait, 2000; Compora, 2003).

Similarly, administrative support should not be seen as an independent element in the HEI system but as a hub of services that provides support to learners, faculty, and staff. As such, administrative support should cooperate closely and permanently with the learner support system, the faculties, and the technical departments. The success factor is therefore how each of the key components of an administrative support system can provide valuable support for the stakeholders (learners, faculty and staff).

In an increasing number of countries, the provision of ODDE programs and courses is regulated by specific legislation. Several strict pedagogical and technical requirements are imposed to HEIs as a condition for operating as ODDE providers. In the Portuguese case (MCTES, 2019), mentioned in the previous section, HEIs are required to have an appropriate technological infrastructure and support services as well as specially trained learner support staff amongst other conditions. It is mandatory for HEIs to develop integrated administrative management systems that ensure the dematerialized processing of all academic processes, including online communication systems for student attendance that allow for applications, enrollments, registrations, access to assessment results and other administrative documentation, and information be accessible online (MCTES, 2019: art. 9).

While the support services each HEI choose to offer may vary according to the national regulation, students' characteristics, the pedagogical approach followed, and the institutional culture, the decision-making is greatly driven by accreditation guidelines. In recent years, quality assurance agencies worldwide have been setting quality and accreditation standards for ODDE provision which share many similar elements (Ossiannilsson, Williams, Camilleri, & Brown, 2015). This establishes a good reference for the organization of administrative support systems.

Policies

A cornerstone to all these set of standards is the requirement for HEIs to support the implementation of ODDE with appropriate policies, structures, and processes, which take into account all ethical and legal considerations and are embedded in the institution's organizational culture and values. This framework should provide

guidance on ODDE organization, ensure protection against academic fraud, as well as accessibility and participation for all learners, and proper and timely administrative and technical support for all users of the digital learning ecosystem.

Pedagogical Approach

A successful innovation strategy must also be able to align academic and legal regulations with an institutional pedagogic model, which serves as a reference for ODDE organization and practice. Such a tool allows for an easier and coordinated adjustment of the administrative and technical structure with the concrete needs of faculty and learners. An example of this interdependence may be found in how HEI must ensure the security and fitness for purpose of the e-assessment system (Foerster et al., 2019). Certainly, one of the factors contributing to that goal is the implementation of protective measures which guarantee learner authentication and anti-plagiarism technologies which track learners' identity and work authorship. However, this must be always complemented with a code of practice which regulates the retrieval, storage, and use of learner data, and establishes for which purposes learning analytics is carried out. Such a combination of policy, technology, and a code of practice will ensure quality as well as information integrity, validity, and data protection. When external proctoring systems may be used, quality assurance procedures and security measures need also be implemented for external partners providing ODDE systems or services.

A prior condition to e-assessment practices as with other processes is that stakeholders, most especially teaching staff and learners, are informed about the methods and the criteria used for grading learners' work. This is once again partly assured by the pedagogical model, which establishes a framework for e-assessment design, and by clear communication from teachers. However, it also partly depends on how administrative support services confirm the information and apply those rules for certification and other processes. As such, an additional a code of conduct for learners must be in place. A code which includes recommendations on good practice and information on how cheating and plagiarism must be avoided and the consequences and sanctions such misconduct will lead to.

Learner Support

The interdependence of factors which characterizes teaching and learning processes in such complex fully digital or hybrid environments calls for a highly integrated response from the HEI organization. This is expressed in closer and interconnected cooperation between governance, administration, and faculty. In what specifically regards learner support, this means administrative support services and technical infrastructure and support services should work in a very coordinated way and in close communication with faculty and other stakeholders. Consequently, HEI are required to implement efficient learner support policies and

strategies, which provide access to well-resourced support services for learner's counselling, orientation, tutoring, and facilitation in order to increase retention and success. As previously stated, learner support must cover not only pedagogical, but also technological and administrative-related needs, ensuring that services are timely and adequate to learners' profiles and needs, and considering the IT skills of the learners.

Technological Infrastructure

Infrastructure support for ODDE faculty needs should be a well-organized effort with a never-ending process of improvement. At whatever state the current infrastructure is, there is always room for improvement, but the implementation of ODDE requires certain considerations not normally an issue in a campus conventional teaching environment. Meyer and Barefield (2010) distinguish different sets of priorities according to each of the three stages of ODDE implementation: foundation, development, and maintenance.

One of the most critical priorities in the foundation stage is to ensure a cooperative atmosphere between administration support and faculty (McLean, 2006), as well as to train technology support staff to be extremely supportive and responsive to the immediate needs of the learners and faculty (Jennings & Bayless, 2003). Another paramount condition to be secured is permanent connectivity to teachers and learners. Online registration, billing and payment system, online bookstore, and online library services are essential parts of the basic foundation needed to support ODDE provision. These online services should be well established in advance of implementation of ODDE programs and courses (Tallen-Runnels et al., 2006).

Learning Resources

In the development stage, additional factors need be taken into consideration which requires administrative support to teachers and learners. These relate for instance to the production and/or distribution of learning materials to all learners. In an ODDE environment it is recommended the extensive use of open educational resources (OER), notably MOOCs. Such a decision allows for easier access to resources and the possibility for teachers and learners to contribute to its updating and improvement continuously. This calls for the dissemination of an open culture amongst faculty and other stakeholders as it has implications regarding intellectual propriety rights. The institutional adoption of open science policies, including open access to scientific publication and open licensing, is instrumental. Such an institutional strategy requires for administrative support services to adjust policies and procedures (Inamorato dos Santos, Punie, & Castaño-Muñoz, 2016). Universal accessibility to learning content and support services should also be assured and must be embraced by HEI as a major goal.

Assessment and Certification

As fully demonstrated during the pandemic, another critical element in the development stage is to ensure e-assessment integrity and security. From a conventional perspective, stakeholders may wonder how can tests be proctored or learners be monitored while taking a test online and at a distance? An increasing number of solutions are available in the market. However, the best strategy is to redesign assessment and certification practices making full use of Ed Tech tools. This refers for example to the implementation of ePortfolios and micro-credentials.

Communication

Accreditation standards usually require HEI to have information management systems which enable agile, complete, as well as representative collection of data and indicators derived from all aspects related to ODDE methodology, authenticity, and authorship technologies. Feedback procedures with the learning environment and the educational digital technologies used are also called for. This typically relates to the following aspects: ease of use for all learners' profiles; as well as privacy in relation to personal data, legal requirements, and ethical aspects involved. The HEI are expected to ensure as well the collection and dissemination of relevant information from stakeholders (learners, academic staff, support staff) for the effective management and enhancement of the ODDE methodology. The purpose of this is to promote improvements in the learners' learning experience.

An important additional element is that HEI must publish openly reliable, complete, and up-to-date information, accessible to learners before and after enrolment, on the ODDE practices, the pedagogical model which supports them, the minimum hardware requirements to make full use of the digital environment, the institutional learning, and technical support provided.

Quality Assurance

Finally, at the maintenance stage, the process of continuously monitoring and evaluating new online technology assumes high importance. Updating technology only when there is value added ensures that decisions to upgrade technology are only made when it can be proven that there will be value added with the updated technology (Ryan et al., 2005). Periodically assessing and updating the quality of course content and delivery, as well as of support services, is a process that is much more critical in an online environment than with campus courses because technology and online learners demands change much more rapidly. Quality assurance plays a critical role in this context.

From Digital Transition to Digital Transformation

The sustained expansion and further development of ODDE within an increasingly hybrid HEI landscape calls for the development of Dx. As indicated in a report by the Spanish Rector's Council, the Dx of HEI is no longer an option. Each university must therefore design, arrange, and execute a digitization plan that will allow it, depending on its reality and university model, to evolve as an organization throughout the process (Crue-TIC, 2018). Nevertheless, the most important challenge is the transformation of the organization itself as a deep change in both culture and leadership is required (Grajek, & Reinitz, 2019). HEI must evolve from the concepts of benefit/expense to vision/purpose, from hierarchy to collaboration networks, from control to trust and empowerment, from systemic planning to experimentation and acceptance of error as part of the learning process, and from opacity to transparency. The changes to be made affect the vision, culture, processes, and services (Crue-TIC, 2018).

There is growing evidence that HEI are embracing Dx, intentionally or not, as a matter of survival and a preparation for the still very uncertain future that emerges in the post-pandemic age (Reinitz, 2020). The objective is to become proficient and effective in the new digital or hybrid environment while, at the same time, keeping high academic standards. In fact, recent surveys confirm that most HEI leaders view Dx as a high priority and are committed to induce change in their institutions (Jensen, 2019). However, evidence also shows they are divided in how Dx translates into action. When asked to assess whether change is mainly being pushed top-down by the leadership and through an institutional-wide strategy or whether it is mainly developing as bottom-up, building on different opportunities and experiences across the different faculties or administration, results are not homogeneous. Although Dx seems to be part of the institutional strategic planning in most HEI around the world today, only in some cases there is reference to an actual digital roadmap or strategy in place to support its implementation (Jensen, 2019).

Reinitz (2020) identifies three stages in this transition: the 3Ds (digitization, digitalization, and Dx). The first and most basic step is digitization. The term refers to the transition from an analogue to a digital form. It can be described as a simple analogue-to-digital conversion of existing data and documents. A typical example of this stage is digitizing paper records and making them available online. In this case, neither are the processes optimized nor the document and data changed. They are simply encoded in a digital format. From learning materials to administrative documents most HEI across the world today have its information produced and shared in digital format and even openly accessible online. This has allowed for the automation of many manuals and paper-based processes which improve accessibility and work-flows. On a recent study on German universities, Gilch and others (2020) have concluded that digitization strategies are targeted at administrative support (61.8%) almost as much as at teaching and learning (69.6%). The objective most frequently associated with this is to increase the administrative services' quality and the administration's efficiency.

For administrative support, digitization involves four major operations. The first is to digitize all documents produced or used in its procedures (e.g., legislation, policies, regulations, and written procedures). The second is to assure that all administrative data is digitally retrieved, processed and managed according to established procedures protecting personal privacy and the integrity of the information. Thirdly, is to move all internal or external communication to digital media (either using email or other digital communication platforms). Finally, it implies providing online access to data and documents according to specific institutional policies. This can be done at four levels, as defined by Gilch and others (2020):

- Level 1 – Information is provided online
- Level 2 – Forms can be downloaded
- Level 3 – Forms can be completed online
- Level 4 – The process is completely digitized

Administrative managers are responsible in a top-down approach for the establishment or further development of a digital infrastructure, the optimization of the university's internal IT services and for the establishment of digital workflows in administration (Gilch et al., 2020).

The second stage in the journey toward digital transition is digitalization. This refers to the use of digital technologies and information to transform individual institutional operations. Evidence shows that most HEIs are using digital technologies and data not simply to move activities online, but to generate integrated digital environments where information is at the core. This involves, for instance, streamlining the enterprise resource planning (ERP), the invoice workflow and the travel management. As recent studies also indicate (Gilch et al., 2020), this transition may be conducted gradually. In fact, HEIs prefer to prioritize the digitalization of more critical administrative processes first, as the following:

- Application procedure
- Enrolment
- Notification of examinations and grades

Independently of the pace in which the transition is managed, digitalization implies that all other typical procedures will be handled completely digitally as well (e.g., payroll, procurement, research administration, invoice processing, application for jobs, traveling and accommodation application, and accounting).

Lastly, Reinitz (2020) distinguishes digitalization from a third and final stage, Dx. The term is used to describe a situation in which an institutional strategy to transform the strategic direction or value proposition of the HEI is in place. In some regions, notably Europe, policy is playing a critical role in promoting Dx. The new EU Digital Education Action Plan (2021–27) is most certainly a strong evidence of that. Dx represents an extra step by which all education and research-related institutional processes are disruptively changed as a result of digital technology possibilities. The organization's entire operating model including administrative

support is to shift and not just teaching practices. In order to assure the Dx journey is carried out, governance and leadership need to be focused on promoting educational innovation. There needs to be a holistic vision that inspires the institution's community, aligns strategic planning with it, and engages all relevant actors in the process.

Dx allows HEIs to develop an increased capacity to accommodate openness, complexity, and diversity. As stated in previous sections, ODDE learners are more diverse in profile, expectation, and needs than traditional ones. This results not only from the heterogeneous nature and geographical dispersion of the student population. It has been noted by literature that individual students are increasingly following more complex trajectories, moving from one HEI to another, changing between degrees and even fields of knowledge, mixing formal and nonformal learning offerings, and designing their own pathway (Haas & Hadjar, 2020). These phenomena have clear implications for administrative support. Enrolment in a degree, for example, does not represent necessarily an intention of the student to complete it. As such, the relation between enrolment and completion/dropout does not allow the identification of certain factors within the educational trajectory that may have led to one or the other outcome (Haas & Hadjar, 2020). HEI policies and administrative procedures must be adjusted in accordance. They should become highly flexible, transparent, and customizable. In addition, managers and administrative staff have to be also able to tailor them to meet personalized requirements. Moreover, interacting in a hybrid or in a fully online environment requires specific training and expertise. This implies administrative staff should be digitally competent and be recruited and trained for operating in this new context.

Another key aspect of HEI will be to develop a coherent and multifaceted educational ecosystem, one which includes both the several elements of the learning environment (the learning management system, the digital repositories, the virtual and remote labs, and the e-assessment system) and the administrative and technical support services as well. Considering that this is a cultural change process, HEI should also strive to make this ecosystem open, promoting the use, reuse, and remix of OER, and assuring universal accessibility and digital inclusion (Czerniewicz, 2018; Teixeira & Mota, 2020).

One central feature of the digital society is the way in which knowledge and information are produced and distributed in networks that often escape the control of organizations and institutions. HEI are facing an "age of super-complexity" in which knowledge claims are no longer made solely by universities, but knowledge production is increasingly built in private firms and non-academic organizations (Baltaru & Soysal, 2018). According to Wiley and Hilton (2009), universities responded to the radical changes technological innovation brought upon human society by increasing connectiveness, personalization, participation, and most especially openness, since it is a prerequisite to affordable, large-scale progress in the other areas.

Open professional collaboration and inter-institutional alliances are key in the digital age. Based on Hagel and Brown (2005), Wiley and Hilton (2009) suggest that universities will have to rely on "dynamic specialization" strategies, committing to eliminate resources and activities that no longer differentiate them and concentrating

on accelerating growth on what truly distinguishes them in society in order to be or remain successful. They identify five critical functional areas in university organization. These are: structuring and providing access to content; tutoring and learning support services; curating and providing access to research materials; acting as a hub for social activities; and assessing learning and awarding degrees. Wiley and Hilton (2009) expect HEIs focus on developing truly world-class expertise in one or two of these functions and outsource the others.

The implementation of such a model has major organizational and management implications (Teixeira, 2012). Innovative universities, as described by Christensen and Eyring (2011), will have to evolve from a closed environment to an open network one in which data and resources are openly and freely shared with fellow institutions and also with the community. This implies a major change in academia and its validation practices, as well as in many other aspects of how HEIs operate (Weller, 2014). However, even the most flexible universities are traditionally much stable organizations, not changing its basic structure and processes over the years. As such, leaders find it much more difficult to reengineer them as learning organizations (Senge et al., 2000). In fact, higher education has historically avoided competitive disruption.

By unbundling teaching and learning processes and outsourcing services, namely administrative support (Teixeira, Bates, & Mota, 2019), as well as “rebundling” them into new forms (Czerniewicz, 2018), according to different variable contexts, HEIs will gain flexibility, critical dimension, and resource capacity. This will equip these institutions to respond promptly to a rapidly changing environment, thus carrying on their mission of providing quality learning opportunities for all.

Role-Changing: Redesigning Professional Development

Looking ahead at the digital futures of higher education, we can anticipate artificial intelligence (AI) and robots will be playing an increasingly important role in assisting teachers to teach and learners to learn more efficiently. This however does not mean classrooms will be replaced by teaching and learning machines. The purpose of Dx is not so much to automate processes, but to add data intelligence. The same principle applies to administrative support in HEI.

Although processes will be increasingly automated, HEI readiness to overcome the challenges of the new normal will depend heavily on how well their faculty and support staff will be prepared. It is urgent to rethink professional development in HEI. The pandemic crisis has highlighted the importance of teachers' digital competences (Gewerc, Persico, & Rodés-Paragarimo, 2020). However, not much attention has been given to the need for administrative support staff to develop further their digital competences as well. Similarly to faculty, these competences need to be acquired and developed in authentic contexts. This implies staff should be trained in immersive online-based settings and not in traditional in-person environments. Otherwise, they will not be properly prepared as they will lack the experience of working, communicating, and learning online. In addition, they need to train to operate in increasingly learner-centered contexts in which personalization of support services and learner participation in its management are key elements.

A healthy ODDE provision must be preceded by a healthy online development program for both faculty and staff. Staff mentoring could be very effective to help remember and put into practice what was learned in the training sessions. Training that takes place without mentoring is quickly forgotten and refresher training is required, but training that is followed by a well-organized mentoring program has proven to be very effective in helping faculty remember what was discussed in the classroom (Mandernach, Donnelly, Dailey, & Schulte, 2005). The same can be applied to administrative staff.

The administrative support staff usually view themselves as back-office actors. However, in a disruptively changing environment as Dx, they are called to shape their roles themselves and have a larger participation. This implies a certain amount of ambiguity and insecurity as they are bound to operate in a cultural environment dominated by academic norms and values which may be strange to them. Moreover, they must perform a mix of roles which are midway between administrators and academics. In fact, administrative support staff to ODDE teachers and learners may fall into the category identified by Whitchurch (2009) and confirmed by Rytberg and Geschwind (2017) of blended professionals working in a third space. In the words of Musselin (2007), most of them are project-oriented employees. In fact, they regard their tasks at hand as more important than belonging to a specific organizational unit.

Therefore, setting up an open collaboration culture supported by fluid communication and multidisciplinary teamwork is essential to disseminate educational innovation and ensure a supportive institutional environment for quality ODDE development. Accordingly, it may be instrumental to ensure professional development of administrative support staff and technical support staff is conducted in a coordinated and whenever possible integrated way with faculty.

Conclusions

Spearheaded by the global impact of ERT&L, HEIs worldwide are accelerating the movement toward mainstreaming ODDE. As they move forward in this direction, it becomes critical for HEI to reorganize and adjust their existent infrastructures and services. In this context, major attention should be given to the redesign and readjustment of administrative learner support systems as their action is central to the quality of the ODDE learning experience. As literature recognizes, ODDE learners have unique support needs which should be met with services that adequately fulfill their mission in an online environment. ODDE faculty also feel much more engaged if they can rely on a strong infrastructure which supports their technological, economical, and emotional needs.

We have demonstrated in this chapter the importance of administrative learner support being provided in the framework of a holistic institutional innovation strategy involving the active participation of all stakeholders by which strong synergies are promoted across all sectors of the HEIs, academic and non-academic. Given this process leads to an institutional transformation it implies a deep change in both culture and leadership.

The possibilities of digital technology combined with the theoretical foundations of open and distance education which build upon universal accessibility and learning flexibility promote the use of collaborative pedagogical models. This leads ODDE to empower learner participation at all phases of the learning process. The introduction of learning analytics, AI, and adaptive technologies has allowed to combine scalability with personalization. An increased flexibility and customization in design, delivery, and support of ODDE programs and courses is therefore now being required by all stakeholders.

In this new emerging scenario, we have demonstrated that administrative learner support, as part of a wider administrative support hub of resources and services, should have a close collaboration and consequently participation in the integrated process of design and delivery of courses and programs. A system-wide approach is needed. We recommend therefore HEI to set up multidisciplinary teams involving faculty, learning designers, administrative, and technical staff, as well as alumni to coordinate design, delivery, and support of ODDE provision. In the same direction, we also suggest ensuring professional development of administrative support staff and technical support staff is conducted in a coordinated and whenever possible integrated way with faculty.

As HEI engage in Dx and ODDE provision expands, a new organizational model based on the principle of dynamic specialization is emerging. HEI are reorganizing as learning ecosystems and converging each other and with other non-formal learning institutions in large open networks. It is foreseeable that this new landscape will impact dramatically in the design and organization of administrative learner, faculty, and staff support systems, as each HEI may share its most efficient services with others and use other's services to replace its own less successful services. The resulting scalability will produce major gains in efficiency and a better service provided will also increase the quality of the learning experience. Moreover, this new open collaboration institutional model represents at best the affordances of open science and ODDE in higher education.

Cross-References

- ▶ [Evolving Learner Support Systems](#)
- ▶ [Introduction to Infrastructure, Quality Assurance, and Support Systems of ODDE](#)
- ▶ [Supporting Learners with Special Needs in Open, Distance, and Digital Education](#)

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