

Learn by distance: advice for choosing an effective and inclusive e-Learning platform

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ABSTRACT

In this last eventful year, in order to deal with the health emergency, the logistic problems related to it and the imposition of “distance learning”, digital e-Learning platforms and tools have been widely used both for teaching and for autonomous work. However, these technologies were often completely new to users and their parents, who had to quickly adapt to the situation by learning how to handle them, not always in the most efficient way. In this complex scenario, children and adolescents with special educational needs and disabilities (SEND) have suffered the most and the already existing gap with their schoolmates has widened further (Asbury, 2020). In this work, we have analyzed some existing platforms and the available related literature to highlight and list the most suitable features for better inclusive learning that can fill the many gaps in distance learning and boost the experience of face-to-face teaching. Therefore, the purpose of this work is to provide informative tools for professionals working in primary and secondary school contexts to facilitate the choice of an appropriate learning platform. Features such as cooperative teaching, the availability of a wide variety of evaluation types, digital repositories and the possibility to monitor learning trends should help teachers organize daily activities. Working in small groups, receiving effective feedback on progress from tutors and teachers, having materials organized with an appropriate search system, and the presence of gamification principles (rewards, enhanced visuals and interactivity) should also be considered in the decision process. Furthermore, the selection process must pay proper attention to the specific characteristics of SEND’s by properly stimulating their metacognitive strategies and provide suitable materials to strengthen existing competencies and boost new compensatory strategies.

SINTESI

In questo ultimo anno ricco di eventi, per far fronte all’emergenza sanitaria, ai problemi logistici ad essa connessi e all’imposizione della “formazione a distanza”, sono state largamente utilizzate piattaforme e strumenti digitali di *e-Learning*, sia per la didattica che per il lavoro autonomo. Tuttavia, queste tecnologie sono risultate spesso completamente nuove per gli utenti, i quali hanno dovuto adattarsi

rapidamente alla situazione imparando a gestirle, non sempre nel modo più efficiente. In questo scenario complesso, i bambini e gli adolescenti con bisogni educativi speciali e disabilità (*SEND*) hanno sofferto di più e il divario già esistente con i loro compagni di scuola si è ulteriormente ampliato (Asbury, 2020). In questo lavoro, abbiamo analizzato alcune piattaforme esistenti e la relativa letteratura disponibile, per evidenziare ed elencare le caratteristiche più adatte per un migliore apprendimento inclusivo, in grado di colmare le numerose lacune nell'apprendimento a distanza e aumentare l'esperienza della didattica frontale. Pertanto, lo scopo di questo lavoro è fornire strumenti informativi per i professionisti che lavorano nei contesti della scuola primaria e secondaria, in modo da facilitare la scelta di una piattaforma di apprendimento adeguata. Caratteristiche come l'insegnamento cooperativo, la disponibilità di un'ampia varietà di tipi di valutazione, archivi digitali e la possibilità di monitorare le tendenze di apprendimento dovrebbero aiutare gli insegnanti a organizzare le attività quotidiane. Nel processo decisionale dovrebbero essere considerati anche il lavoro in piccoli gruppi, la ricezione di feedback efficaci sui progressi da parte di tutor e insegnanti, l'organizzazione dei materiali con un sistema di ricerca appropriato e la presenza di principi di *gamification* (ricompense, immagini migliorate e interattività). Inoltre, il processo di selezione deve prestare la giusta attenzione alle caratteristiche specifiche dei *SEND*, stimolando adeguatamente le loro strategie metacognitive e fornendo materiali idonei per rafforzare le competenze esistenti e stimolare nuove strategie compensative.

KEYWORDS: COVID-19, e-Learning platforms, SEND, distance learning

PAROLE CHIAVE: COVID-19, piattaforme e-Learning, SEND, distance learning

Introduction

There is no question that the massive spread of COVID-19 around the world has resulted in an impressive paradigm shift both in terms of how we interact with each other in all social spheres and how we conduct our daily activities. In the educational field, for example, schools have had to periodically suspend all or part of their in-person classes and massively reorganize their teaching activities to ensure continuity of learning. The entire school system has literally moved online on an unprecedented scale. As a result, teachers quickly had to learn how to use new virtual learning environments, synchronous/asynchronous platforms and reinvent their teaching strategies to better adapt to these tools, not always in the most appropriate way. The lack of knowledge of available and appropriate digital resources and general unpreparedness in the ICT field is certainly not new in the Italian school context. As pointed out by Avvisati et al. in their “Review of the Italian digital strategy for digital schools” (2013), the Italian school system shows several criticalities in this regard. In the specific, teachers are neither regularly involved in digital adaptation projects nor adequately trained through the use of specific funds. Moreover, there is a general lack of structural and cross-cutting use of instructional technologies (Moricca, 2016). However, the scientific literature regarding the use of technology in education is quite straightforward. In fact, several works have highlighted how technologies can promote processes that interact with very important aspects involved in the acquisition of knowledge, such as interactivity, collaboration, problem-solving and metacognitive strategies (Calvani, in Bonaiuti et al., 2017; Schmidt et al., 2009). These aspects, in addition to the pandemic itself, have had significant consequences, especially in the family context, since families, in addition to the logistical problems associated with caring for their children for longer periods of time, have had to deal with the new technological demands of distance learning. Aspects such as limited availability of digital devices and lack of adequately fast connectivity have necessitated quick and costly interventions (Beunoyer, 2020; Parmigiani et al., 2020; Van Lancker, 2020). Moreover, the heterogeneous set of resources and tools offered by schools and family affordances has thus resulted in great disparities among children, not only from a learning perspective (Champeaux et al., 2020). In the specific, according to this work, parents, who were administered a distance learning experience questionnaire, reported a worse emotional state for their children, likely due to the lack of interaction with peers. This result is cushioned in the case of older children, probably because they were able to interact more with their classmates using social networks and web services. In addition to this, it is necessary to highlight that those who suffered the most from the situation were children and adolescents with special educational needs and disabilities (SEND) (Ianes & Bellacicco, 2020; Vicari, 2021). As a result, the gap that already existed with their classmates increased even further and their parents had significant difficulties in helping their children with distance learning (Asbury, 2020). The general purpose of this work is therefore to enhance e-inclusion, which can be defined as the ability of the school system to increase the involvement of students with special educational needs and disabilities (SEND) and improve their learning processes through the use of digital tools and

applications, in a perspective more akin to the framework of Integrated Digital Didactics. This teaching methodology replaces the provisional emergency distance learning adopted in the first lockdown and aims to embrace mixed and intelligent methodologies also for future in-person teaching activities. Specifically, we decided to take a look at existing digital platforms and tools and highlight what features may be best suited to foster better learning and greater inclusion in primary and secondary school contexts. Our expectation is that these features and aspects should then be taken into consideration by all those professionals who work in the educational field when deciding on a particular tool or environment for a specific activity.

1. E-inclusive learning features

As previously stated, the purpose of inclusive education is to enable all students to actively participate in school activities by supporting their learning processes (Hardy & Woodcock, 2014; Haug, 2016; Parmigiani et al. 2020). Moreover, the learning environment should be the same for all peers in order to stimulate a sense of belonging and sharing of goals, regardless of the use of activities tailored to the needs and abilities of individuals (Benigno et al., 2007). All these aspects are easily transposable and applicable in the e-learning field. In fact, the increasing use of digital tools and platforms has proved to be very useful in supporting SEND's students, especially in participatory and active learning contexts, because it allowed them to have the same tools as their peers, increasingly narrowing the gap with them (Ismaili & Ibrahim, 2016; Mitchell & Sutherland, 2020). Specifically, digital resources help students in a number of ways, such as reducing feelings of loneliness and inequality (Zhu & Van Winkel, 2014) and making them feel part of the same group (Lombaert et al., 2006). Additionally, as previously mentioned, ICT's have been proven to allow students to increase the number of learning processes outside of the classroom setting (Wadley et al., 2014). However, all these aspects proved to be valid in an in-person teaching context. In a scenario such as the one we just experienced, i.e., isolation and distance learning, the huge availability of digital resources was not enough to bridge the gap and allow SEND's students to keep up. According to Jude et al., (2014), Lakkala et al., (2009), and Leclerc et al., (2012) findings, it is pivotal to arrange online learning activities using cooperative and interactive methods to keep everyone's attention and participation alive. Furthermore, the possibility of having individual feedback moments and personalized learning activities should also be considered (Liu et al., 2018; van de Pol et al., 2019). Speaking of which, it would be useful to have a platform capable of both guaranteeing generic synchronous daily activities for the whole class and organizing meetings for micro-groups of people in case there is a need to better explain certain aspects that emerged during the lessons and evaluate the effective acquisition of these notions (Hockly, 2012; Jude et al., 2014). In the small group, those who have more difficulty fitting into the group manage to make themselves heard and overcome the moments of isolation and bewilderment typical of distance learning (Orlov et al., 2021). A situation of greater comfort and tranquillity would also allow them, through discussion with classmates and the teacher, to develop

metacognitive reflections, which are suitable for effective learning (Orlov et al., 2021; Hockly, 2012). As highlighted by Parmigiani et al. (2020) and Orlov et al. (2021), the daily learning path of each student should include an initial phase of online lessons (or in presence) with the whole class, followed by meetings and personalized activities in small groups and finally arriving at moments of direct and continuous collaboration with the families themselves. In fact, at this stage, information and instructions would be given to individuals for home activities which are pivotal to consolidate information. Therefore, it emerges the need to have a specific environment for the asynchronous mode that allows teachers and educators both to share generic and personalized materials to the students in digital repositories and to remotely monitor their learning trends (Miyoshi et al., 2012). This should also apply to specific learning tutors who are responsible for shadowing SEND's students after school and need access to teacher-provided materials and learning trend visualization. However, as pointed out by Buza & Hysa (2020), Maier et al. (2020), and Willemse (2018), the abovementioned strategies and methodologies require families' collaboration. An additional factor to consider when choosing platform and environments should be the possibility of collaborative activities between classes and between teachers, i.e., shared/cooperative teaching activities (Chiu & Piontkivska, 2020; Chizhik & Brandon, 2020). In fact, a possible application of co-teaching mode could be to present a specific topic from different points of view (e.g. science and history, mathematics and technology). This would allow lessons to be less disciplinary based and more flexible, favouring connections between subjects and promoting a more comprehensive acquisition of concepts. In this way, students who usually have the greatest need for attentional engagement could develop different problem-solving skills by leveraging connections with other disciplines and their own metacognitive strategies. In addition, in this way, there would be a shared approach to teaching between teachers, and the exclusion of some students would be avoided. In fact, the use of multiple and different learning platforms, assessment methodologies and the lack of coordination between teachers, which is typical starting from secondary education, would create the so-called "push-out phenomenon" with negative effects for the proper inclusion of the student himself (Parmigiani et al., 2020). With regard to assessment and learning modes, the Universal Design for Learning (UDL) framework (Rose, 2000; Murawski & Scott, 2021) presents a useful groundwork for creating instructional materials, lesson design, and teaching practices with an eye toward meeting the needs of diverse groups of learners. Specifically, the principles and guidelines emphasize the need to use multiple means of representation, action, and engagement to employ diverse learning networks and engage all the students. It is then necessary to adopt different modalities in order to assess competencies more effectively, especially in the case of students with special educational needs and disabilities (Downing, 2010; Imray & Colley, 2017; Kurth et al., 2015). This is because each individual uses preferential strategies to retrieve information or answer questions, and classic assessment methods do not always measure effective learning. It follows that a learning platform that aims to assess the skills and competencies of students must necessarily give the teacher a wide variety of tools, for example (true/false questions, multiple-choice questions, quizzes, cloze tests,

connect the objects etc.) (Cheong et al., 2013; Hardy et al., 2014; Miyoshi et al., 2012). At the same time, it should allow the students to challenge themselves with alternative methodologies, such as creating other digital contents (e.g., presentations, concept maps, videos, etc.) (Kaklamanou et al., 2012, for further details). Always according to the indications of the UDL framework, it would also be important to choose platforms capable of ensuring an intelligent organization of the material, exploiting the principles of semantic classification and meta-tagging (e.g. by topic or by subject) (Dong et al., 2008; Fatima, Luca & Wilson, 2014). In this way, it would be guaranteed a friendly, intuitive and more inclusive platform since unpleasant situations of bewilderment in front of a vast and disordered mass of material could be avoided. Regarding the fruition of uploaded contents, also the use of gamification elements would respond to the framework's principles in terms of enhancing motivation, engagement and attention. Specifically, by "gamification" we mean using game-like elements (like points, levels, trophies, achievement badges, leaderboards and storyboard), also called game mechanics, in non-game environments. These elements would push the individual, especially SEND's students, to move forward to the next stage and stay involved in the activities, furthering the very process of inclusion in a community setting and develop an effective learning process (Dafne Ifigenia et al., 2018; Gooch et al., 2016; Muntean, 2011; Sitra et al., 2017). All this taking into account that an excessive use of social elements, such as leaderboards, should be avoided because, in some cases, it could disfavour the participation of less performing students (Huang & Soman, 2013).

Conclusions

More than a year after the pandemic, we cannot afford to improvise in the choice of methodologies and teaching tools to be used in the e-learning/in-presence context. Moving towards an inclusive digital education integrated with the one in presence seems increasingly necessary. It is therefore pivotal to give practical guidance to all operators in the educational field so that new disparities between students, especially SEND's, are no longer created. In addition to this, we assume that the need to make the topic of accessibility and disability a common theme for the whole class is a good educational opportunity, also with a view to exploring the limits and possibilities of technology. Therefore, adopting the digital materials or a different presentation of contents can benefit the whole class. With regard to the literature review done, a number of specific features and tips that should be taken into account when choosing a particular tool or learning environment emerged (Table 1). First, platforms and tools should be the same for all students in order to strengthen a sense of belonging and sharing goals (Benigno et al., 2007). The number of platforms used should not be excessive in order not to create a greater sense of loss in the student. Aspects such as the possibility of initiating synchronous cooperative and interactive activities for the whole class and at the same time guaranteeing feedback to individuals or small groups are equally important. For asynchronous activities taking place in different contexts, it is necessary to have a specific tool or environment for the asynchronous mode that allows teachers both to share generic and personalized materials to the students in digital repositories

and to monitor their learning trends remotely. It should also allow access to materials and data to third parties (e.g. psychologist, tutors, other teachers) involved in the learning process, such as specific learning disabilities and difficulties tutors, educators and parents. Being able to have all the same kind of information would certainly benefit the pupil's inclusion and learning process. An equally important factor to consider in the choice of a learning environment should be the possibility of initiating collaborative teaching activities between classes and between teachers to stimulate possible links between different topics and metacognitive strategies (Parmigiani et al., 2020). Following the principles of the UDL framework, it is extremely helpful to use multiple modalities and strategies of presenting content and involving pupils (Rose, 2000). For example, a platform that provides exercises aimed at effectively measuring learning should support both a wide range of "traditional" exercises, such as cloze tests, quizzes, multiple-choice questions, connect the object etc. and "alternative" methodologies such as concept maps, presentation and videos. In general, it should also ensure a functional organization and arrangement of resources within it, perhaps based on a semantic search and guarantee user-friendly interfaces. Finally, it should also consider the elements of gamification in its resources, e.g., by providing a reasonable amount of self-elements such as points, levels, trophies, achievement badges and social elements like leaderboards and storyboard to further stimulate metacognitive strategies, engagement, motivation and attention.

FEATURES	PURPOSE
<p>Equal platforms, environments and tools for all the students.</p> <p>Number of platforms, tools and environments should not be excessive.</p>	<p>To stimulate in all students a sense of belonging and sharing goals and prevent any sense of loss or isolation.</p>
<p>Possibility to start synchronous meetings with the whole class but also to create rooms for small groups or individual feedback.</p>	<p>To maintain contact with students and check their effective acquisition of notions and concepts.</p>
<p>Possibility to have asynchronous spaces and modes to share generic and personalized materials and to monitor their learning trends remotely.</p>	<p>To monitor results of activities carried out alone and better communicate with parents and third parties involved (tutor, psychologist, etc.).</p>
<p>Same amount of information</p>	<p>To benefit students' inclusion and</p>

guaranteed to all the students.	learning process.
Possibility of launching collaborative/cooperative teaching activities.	To stimulate possible links between different topics and metacognitive strategies.
Possibility of having a wide amount of traditional and alternative evaluation tests.	Cloze tests, quizzes, multiple-choice questions, connect the object, concept maps, presentation and videos.
Intelligent organization and arrangement of resources.	Semantic search by using meta-tags and user-friendly interfaces.
Adoption of gamification elements and principles.	Points, levels, trophies, achievement badges and social elements like leaderboards and storyboard.

TABLE 1 – FEATURES TO CONSIDER FOR CHOOSING AN INCLUSIVE E-LEARNING PLATFORM

References

ASBURY, K., FOX, L., DENIZ, E., CODE, A., & TOSEEB, U. (2021). How is COVID-19 affecting the mental health of children with special educational needs and disabilities and their families?. *Journal of Autism and Developmental Disorders*, 51(5), 1772–1780. <https://doi.org/10.1007/s10803-020-04577-2>

AVVISATI, F., HENNESSY, S., KOZMA, R. B., & VINCENT-LANCRIN, S. (2013). Review of the Italian strategy for digital schools. <https://doi.org/10.1787/19939019>

BEAUNOYER, E., DUPÉRE, S., & GUITTON, M. J. (2020). COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies. *Computers in Human Behavior*, 111, 106424. <https://doi.org/10.1016/j.chb.2020.106424>

BENIGNO, V., BOCCONI, S., & OTT, M. (2007). Inclusive education: Helping teachers to choose ICT resources and to use them effectively. *eLearning Papers*, 6, 1–13.

https://www.researchgate.net/publication/28186106_Inclusive_education_helping_teachers_to_choose_ICT_resources_and_to_use_them_effectively

BONAIUTI, G., CALVANI, A., MENICHETTI, L., & VIVANET, G. (2017). *Le tecnologie educative. Criteri per una scelta basata su evidenze* (pp. 1–280). Carocci. <http://hdl.handle.net/11584/217130>

BUZA, V., & HYSA, M. (2020). School-family cooperation through different forms of communication in schools during the COVID-19 pandemic. *Thesis*, 9(2), 55–80. <https://hrcak.srce.hr/250874>

CHAMPEAUX, H., MANGIAVACCHI, L., MARCHETTA, F., & PICCOLI, L. (2020). *Learning at Home: Distance Learning Solutions and Child Development during the COVID-19 Lockdown* (No. 13819). IZA Discussion Papers. <http://hdl.handle.net/10419/227346>

CHEONG, C., CHEONG, F., & FILIPPOU, J. (2013, June). Quick Quiz: A Gamified Approach for Enhancing Learning. In *Pacis* (p. 206). <https://aisel.aisnet.org/pacis2013/206>

CHIU, C. H., & PIONTKIVSKA, H. (2021). Remote Conversations To Enhance Class Experience in the Time of COVID: Co-Teaching with a Wingman Model. *Journal of microbiology & biology education*, 22(1), ev22i1–2317. <https://doi.org/10.1128/jmbe.v22i1.2317>

CHIZHIK, E. W., & BRANDON, R. R. (2020). Making Virtual Co-Teaching Work in a COVID-19 Environment. *Issues in Teacher Education*, 29(1/2), 142–148. <https://eric.ed.gov/?id=EJ1281987>

DONG, H., HUSSAIN, F. K., & CHANG, E. (2008, February). A survey in semantic search technologies. In *2008 2nd IEEE international conference on digital ecosystems and technologies* (pp. 403–408). IEEE. DOI: 10.1109/DEST.2008.4635202

DOWNING, J. E. (2010). *Academic instruction for students with moderate and severe intellectual disabilities in inclusive classrooms*. Corwin Press. <http://dx.doi.org/10.4135/9781483350400>

FATIMA, A., LUCA, C., & WILSON, G. (2014, May). User experience and efficiency for semantic search engine. In *2014 International conference on optimization of electrical and electronic equipment (OPTIM)* (pp. 924–929). IEEE. DOI: 10.1109/OPTIM.2014.6851023

GOOCH, D., VASALOU, A., BENTON, L., & KHALED, R. (2016). Using gamification to motivate students with dyslexia. In *Proceedings of the 2016 CHI Conference on human factors in computing systems* (pp. 969–980).

<https://doi.org/10.1145/2858036.2858231>

HARDY, I., & WOODCOCK, S. (2014). Inclusive education policies: Discourses of difference, diversity and deficit. *International Journal of Inclusive Education*, 19(2), 141–164. <https://doi.org/10.1080/13603116.2014.908965>

HARDY, J., BATES, S. P., CASEY, M. M., GALLOWAY, K. W., GALLOWAY, R. K., KAY, A. E., ... & MCQUEEN, H. A. (2014). Student-generated content: Enhancing learning through sharing multiple-choice questions. *International Journal of Science Education*, 36(13), 2180–2194.

<https://doi.org/10.1080/09500693.2014.916831>

HAUG, P. (2016). Understanding inclusive education: Ideals and reality. *Scandinavian Journal of Disability Research*, 19(3), 206–217.

<https://doi.org/10.1080/15017419.2016.1224778>

HOCKLY, N. (2012). Substitute or redefine? *Modern English Teacher*, 21(3), 40–42. [Hockly_MET-21.3.pdf \(d1wqtxts1xzle7.cloudfront.net\)](https://doi.org/10.1080/15017419.2016.1224778)

HODGES, T. S., KERCH, C., & FOWLER, M. (2020). Teacher Education in the Time of COVID-19: Creating Digital Networks as University-School-Family Partnerships. *Middle Grades Review*, 6(2), n2.

<https://scholarworks.uvm.edu/mgreview/vol6/iss2/4>

HUANG, W. H. Y., & SOMAN, D. (2013). Gamification of education. *Report Series: Behavioural Economics in Action*, 29.

[GuideGamificationEducationDec2013.pdf \(utoronto.ca\)](https://scholarworks.uvm.edu/mgreview/vol6/iss2/4)

IANES, D., BELLACICCO, R. (2020). Distance teaching under lockdown. Teachers' perceived impact on the inclusion of students with disabilities. Edizioni Centro Studi Erickson, Trento, 2020 — L'integrazione scolastica e sociale. Volume 19, Numero 3, Settembre 2020. DOI: 10.14605/ISS1932004 — ISSN: 2724-2242 — pp. 25-47.

IFIGENIA, P. R. D., JAIME, M. A., JULIEN, B., & CESAR, P. G. J. (2018, April). Integration of gamification to assist literacy in children with special educational needs. In *2018 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1949-1956). IEEE. DOI: 10.1109/EDUCON.2018.8363474

IMRAY, P., & COLLEY, A. (2017). *Inclusion is dead: Long live inclusion*. Routledge.

<https://www.routledge.com/Inclusion-is-Dead-Long-Live-Inclusion/Imray-Colley/p/book/9781138241596>

ISMAILI, J., & IBRAHIMI, E. H. O. (2016). Mobile learning as alternative to assistive technology devices for special needs students. *Education and Information Technologies*, 22(3), 883–899. <https://doi.org/10.1007/s10639-015-9462-9>

JUDE, L. T., KAJURA, M. A., & BIREVU, M. P. (2014). Adoption of the SAMR model to assess ict pedagogical adoption: A case of Makerere University. *International Journal of e-Education, e-Business, eManagement and e-Learning*, 4(2), 106–115. [312-CZ607.pdf \(ijeeee.org\)](https://doi.org/10.1007/978-3-319-10639-0_15)

KAKLAMANO, D., NELSON, M., & PEARCE, J. (2012). *Food and academies: a qualitative study*. School Food Trust. School Lunch, Behaviour & Perception Study; Impact of interventions of food provision and food and nutrient consumption ([researchgate.net](https://www.researchgate.net))

KURTH, J. A., LYON, K. J., & SHOGREN, K. A. (2015). Supporting students with severe disabilities in inclusive schools: A descriptive account from schools implementing inclusive practices. *Research and Practice for Persons with Severe Disabilities*, 40(4), 261–274. <https://doi.org/10.1177/1540796915594160>

LAKKALA, M., PAAVOLA, S., KOSONEN, K., MUUKKONEN, H., BAUTERS, M., & MARKKANEN, H. (2009, June). Main functionalities of the knowledge practices environment (KPE) affording knowledge creation practices in education. In *CSCCL (1)* (pp. 297–306). <http://hdl.handle.net/10138/18654>

LECLERC, M., MOREAU, A. C., DUMOUCHEL, C., & SALLAFRANQUE-ST-LOUIS, F. (2012). Factors that promote progression in schools functioning as professional learning community. *International Journal of Education Policy & Leadership*, 7(7), 1–14. <https://doi.org/10.22230/ijepl.2012v7n7a417>

LIU, X., LI, L., & ZHANG, Z. (2018). Small group discussion as a key component in online assessment training for enhanced student learning in web-based peer assessment. *Assessment & Evaluation in Higher Education*, 43(2), 207–222. <https://doi.org/10.1080/02602938.2017.1324018>

LOMBAERT, E., VEEVAETE, P., SCHURMAN, D., HAUTTEKEETE, L., & VALCKE, M. (2006). A special tool for special children: Creating an ICT tool to fulfil the educational and social needs of long-term or chronic sick children. *Current Developments in Technology-Assisted Education*, 2, 1075–1080. <http://hdl.handle.net/1854/LU-495919>

MITCHELL, D. (2020). *What really works in special and inclusive education: Using evidence-based teaching strategies*. Routledge. <https://doi.org/10.4324/9780429401923>

MIYOSHI, M., & TSUBOYAMA-KASAOKA, N. (2012). School-based “Shokuiku” program in Japan: Application to nutrition education in Asian countries. *Asia Pacific Journal of Clinical Nutrition*, 21(1), 159–162.

<https://search.informit.org/doi/10.3316/ielapa.005020511473466>

MORICCA, C. (2016). L’innovazione tecnologica nella scuola italiana. Per un’analisi critica e storica. *Form@re*, 16(1). 228586768.pdf (core.ac.uk)

MUNTEAN, C. I. (2011, October). Raising engagement in e-learning through gamification. In *Proc. 6th international conference on virtual learning ICVL* (Vol. 1, pp. 323–329).

http://icvl.eu/2011/disc/icvl/documente/pdf/met/ICVL_ModelsAndMethodologies_paper42.pdf

MURAWSKI, W. W., & SCOTT, K. C. (2021) *Universal Design for Learning in pratica. Strategie efficaci per l’apprendimento inclusive*. Erickson.

ORLOV, G., MCKEE, D., BERRY, J., BOYLE, A., DICICCIO, T., RANSOM, T., ... & STOYE, J. (2021). Learning during the COVID-19 pandemic: It is not who you teach, but how you teach. *Economics Letters*, 202, 109812.

<https://doi.org/10.1016/j.econlet.2021.109812>

PARMIGIANI, D., BENIGNO, V., GIUSTO, M., SILVAGGIO, C. & SPERANDIO, S. (2020) E-inclusion: online special education in Italy during the COVID-19 pandemic, *Technology, Pedagogy and Education*, 1–14.

<https://doi.org/10.1080/1475939X.2020.1856714>

ROSE, D. (2000). Universal design for learning. *Journal of Special Education Technology*, 15(3), 45–49. <https://doi.org/10.1177/016264340001500307>

SCHMIDT, R. F., BERNARD, R. M., BOROKHOVSKI, E., TAMIM, R., ABRAMI, P. C., WADE, C. A., ... & LOWERISON, G. (2009). Technology’s effect on achievement in higher education: a Stage I meta-analysis of classroom applications. *Journal of computing in higher education*, 21(2), 95–109.

DOI:10.1007/s12528-009-9021-8

SITRA, O., KATSIKIANNAKIS, V., KARAGIANNIDIS, C., & MAVROPOULOU, S. (2017). The effect of badges on the engagement of students with special educational needs: A case study. *Education and Information Technologies*, 22(6), 3037–3046. <https://doi.org/10.1007/s10639-016-9550-5>

VAN DE POL, J., MERCER, N., & VOLMAN, M. (2019). Scaffolding student understanding in small-group work: Students’ uptake of teacher support in subsequent small-group interaction. *Journal of the Learning Sciences*, 28(2), 206–239. <https://doi.org/10.1080/10508406.2018.1522258>

VAN LANCKER, W., & PAROLIN, Z. (2020). COVID-19, school closures, and child poverty: a social crisis in the making. *The Lancet Public Health*, 5(5), e243–e244. [https://doi.org/10.1016/S2468-2667\(20\)30084-0](https://doi.org/10.1016/S2468-2667(20)30084-0)

VICARI, S., & DI VARA, S. (2021). Bambini adolescenti e COVID-19. *L'impatto della pandemia dal punto di vista emotivo, psicologico e scolastico*. Trento: Erickson.

WADLEY, G., VETERE, F., HOPKINS, L., GREEN, J., & KULIK, L. (2014). Exploring ambient technology for connecting hospitalise children with school and home. *International Journal of Human-Computer Studies*, 72(8–9), 640–653. <https://doi.org/10.1016/j.ijhcs.2014.04.003>

WILLEMSE, T. M., THOMPSON, I., VANDERLINDE, R., & MUTTON, T. (2018). Family-school partnerships: a challenge for teacher education.

ZHU, C., & VAN WINKEL, L. (2014). Using an ICT tool as a solution for the educational and social needs of long-term sick adolescents. *Technology, Pedagogy and Education*, 24(2), 231–245. <https://doi.org/10.1080/1475939x.2013.856339>