A vision of How Education Works

Book review: "How education works: teaching, technology, and technique"

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ABSTRACT

J. Dron's 'How education works: teaching, technology, and technique' is a significant contribution to the educational literature that centers on the multifaceted realm of teaching with technology. Adopting an autobiographical narrative, the author brings to the fore his rich experiences in instructional design and technology-mediated education. This work critically examines the dynamic interactions among the pedagogical methods, tools, and various actors in the educational environment. The book emphasizes the necessity for co-participation and flexibility in educational systems, while acknowledging the intricate challenges posed by learner diversity. Through the lens of a seasoned educator, it serves as a mirror for readers to reflect on their pedagogical practices, invites introspective meditation on teaching methodologies, and provides a platform for discussing common obstacles in technology-enhanced learning landscapes. This review endorses Dron's book as an essential read for educators, instructional designers, and scholars interested in the complexities and evolutions of educational technology and its impact on instructional strategies.

KEYWORDS: pedagogical design; education; technology; educational cooperation; teaching methods

Technology-mediated education continues to be a major topic to be debated in both face-to-face and virtual classrooms, especially by those teachers, tutors, students, and the educational community in general, who work to support their educational work with digital technologies, as approached by UNESCO as an enhancer of the achievement of Sustainable Development Goal 4 (SDG 4) of Quality Education, as inclusive, innovative and that allows access to the right to education at all levels with modes of universal access to learning.

This book addresses how Education works in the current society, using an autobiographical narrative approach, narrated with other authors, that uses resources for explaining, commenting, and transmitting the years of expertise of the author as a specialist in teaching using technologies. From this point of view, we can go throughout his professional career as a specialist in technology-mediated education, with examples from his daily life, anecdotes, comments, questions, inquiries, interpellations, philosophies of life and teaching, even the construction of teaching and learning through analogue mechanical tools, and information and communication technologies throughout their evolution, as well as the educational technology to support teaching and learning.

Thinking especially under the criterion of the quality of the education we offer, the author starts with the question of How quality teaching is assessed when educational policy directs the teaching processes and practices, many times limiting them. This limits in his work are metaphorized as views of the great elephant in the room, but we always decide to avoid them in order to move on forward. The construction of teaching and learning is explained through the complex ecosystem of methods, tools, techniques, procedures, theories, principles and models, and of course the practice of the instructional design and its effectiveness related to the different types of learning and the unique processes that each student experiences in their learning achievement.

Throughout part 1, "AlL aBoUt tEcHNoLoGy" provides a view of collective education from a perspective of thinking and understanding as a great technological system, which refers to the information exchanges of its users and much beyond. It starts from the visualization of each person since their individuality with their own technology (brain processes), as well as being part of the collective learning. Every person is part of the system and its complex networks and interactions in which it has to exercise their learning. The complexity is referred as the great orchestrations of the appropriation of it, that professors orchestrate to produce learning phenomenologies, even students orchestrate the achievement of their knowledge as actors of lifelong education that seeks to produce an improvement in their learning.

It also presents us with a division of soft and hard technologies, and the different ways in which we use them. Soft technologies are exercised when we use them as simple instruments (tangible objects) and hard when we seek to produce a learning goal, in which the use of technological objects and techniques is manifested in the design, the co-creation and the continuous improvement in collaborative way (intangible phenomena) closely linked to technique, invention, the way of providing solutions or taking advantage of opportunities. Thus, in his understanding exist similarities of the definitions of technology and education, expressing it could be closely linked in the way they are made and applied, and vice versa. Inventions and innovations can be used not necessarily in the way they were created, depending on the user's use and usefulness. The market is full of innovations,

techniques, new technologies which can have positive and negative externalities, which give rise to new inventions. Thus, it invites us to understand technology in terms of its application to science, education, research, whether as a type of technology, a methodology or a technique that seeks to support and facilitate the process of creating new knowledge. This is also exemplified as the application of a combination of instructional design with a content, a methodology, a technique or combination of technologies that seek a training objective, it leads us to understand the process of continuous improvement within the context and conjuncture of each classroom, which differs based on the available resources and its users, and its application in a constant process of application, evaluation and continuous improvement in which the available technologies are increased and many others are outdated over time.

In part 2, "EDucAtIoN AS A TECHNoloGICaL PHENoMENoN" the importance of the co-participation of educational actors is developed like the empowerment and self-regulation of techno-pedagogical design in the classroom. No matter if a class was on-line or face-to-face, where professors, teachers, tutors, classroom facilitators interact, it is presented as a great system together with the student's minds. They make the phenomenon of teaching and learning possible. Likewise, different educational theories are presented and historically addressed, entailing a situated education. These phenomena are understood from the assemblages of didactics, pedagogy, techniques applied to a context, that we plan with resources and methodologies that we possess with which we want to achieve a teaching/learning process. In this sense, the author provides examples that indicate the need of flexibility inside the activity designs, guides, tasks, and challenges that are intended to be applied throughout a subject, in the same classroom, but perhaps with different teachers and students. So, that teaching and learning can occur effectively, being able to adapt it to specific and particular contexts, according to the needs of its actors, to their communication needs, to their environment, to how they feel most comfortable to demonstrate their competencies and abilities, to allow co-design or the proposal of modifications that conform to the norms and rules of co-creating new knowledge together.

Likewise, different controlled practices of the activities are mentioned, in which we must base ourselves on our classroom expertise, so as not to fall into a hard control, which does not grant enough flexibility to achieve the task, or redesign in the process by adjusting to measure, and neither fall into soft pedagogy that could also lead to errors. If a tool is not feasible, being able to change them at the time of their teaching, seems a very difficult task, but as practice makes the master, it will be polished in a process of continuous improvement.

Also, processes of autonomous learning are analysed, which could also entail difficulties because of the type of PLE (personal learning environment) that students can adjust to their needs, and the resources that exist today in the network. This analysis includes the possibility to reach each of the students in a specialized and individualistic way, or as a collective with the co-participation and design, we would be more effective, achieving it in the time and frame of development of the subjects and classes, as well as with the resources available to fulfil the ultimate goal of teaching "to achieve effective and useful learning for the student". The teaching-learning process, therefore, must involve all the actors, administrative, academic, analog recourses and technological support personnel, so that together they build a better provision of education appropriate to our target audience and to the science we intend to teach. This is something more practical and useful for those who are self-taught, as they do not depend on others. However, in formal and informal classrooms, we must take into account the dilemmas of reconciling beliefs, methodologies, techniques, motivations, knowledge, technologies and tools.

In section 3, "ApplyING tHE Co-PARtICIpAtIoN ModEl" are mentioned some ways of applying co-participation are detailed, in order to build the appropriation of learning. In this sense, it is emphasized that each one is a co-participant, in which they can also learn from each other. Co-participation in education plays a major role as a strategy that fosters collaboration, cooperation, brainstorming, opinions, and a diversity of perspectives that can lead to improvement. In addition, examples and situations are revealed that demonstrate the need to eliminate practices that hold back the progress of student learning. The purpose of teaching is to achieve the learning of the students and that the opportunities are profitable in their growth, not only academically, but also technically and professionally. Institutionally, the limits of configuration or assembly related to the established way of the managing learning, could have negative consequences on the development of learning. The autor mentions, above all, it would be possible to make the evolution of the education system visible. It gives rise to greater challenges that require teachers to double their efforts to adapt to the changes that they have perceived in the environment, such as needs, interests, desires, motivations and ideas that arise throughout the training. Also, teachers must feel challenged to take the reins and forge a community of co-participation during the learning process of the students. To this end, the importance of a more open teaching is highlighted, with the changes that arise in the environment, in order to contextualize the student with these learnings and apply them to real life.

Finally, the book stresses that each person is unique, and behind that uniqueness there is a world to discover. Many times, as teachers, we have a preconception of what we want to teach to the students, and it is a wrong to think that there is only one methodology that we can offer as professors. However, the impact that is expected in practice within the context and reality is very difficult when diversity is not considered, and behind diversity there are needs to be satisfied and addressed. Therefore, as professionals, it is essential to be committed to working with this diversity and providing critical tools and useful practices for future decision-making. In conclusion, this book is rich in experiences and inquires of the author. Reading this book could be a source to compare our own thoughts, with the theories and knowledge, exercise meditation with our concern, mindfulness, and change expectations, to share in the classroom what challenges technology-mediated education has today.

REFERENCES

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UNA VISIÓ DE COM FUNCIONA L'EDUCACIÓ

Com funciona l'educació: ensenyament, tecnologia i tècnica" de Dron és una contribució significativa a la literatura educativa que se centra en l'àmbit polifacètic de l'ensenyament amb tecnologia. Adoptant una narració autobiogràfica, l'autor posa en primer pla les seves riques experiències en disseny instruccional i educació mediada per tecnologia. Aquest treball examina de manera crítica les interaccions dinàmiques entre els mètodes pedagògics, les eines i els diversos actors de l'entorn educatiu. El llibre posa l'accent en la necessitat de la coparticipació i la flexibilitat en els sistemes educatius, alhora que reconeix els complexos reptes que planteja la diversitat de l'aprenent. A través de la mirada d'un educador experimentat, serveix com a mirall perquè els lectors reflexionin sobre les seves pràctiques pedagògiques, convida a la meditació introspectiva sobre les metodologies d'ensenyament i proporciona una plataforma per discutir els obstacles comuns en els escenaris d'aprenentatge millorats per la tecnologia. Aquesta revisió avala el llibre de Dron com una lectura essencial per als educadors, dissenyadors d'instrucció i estudiosos interessats en les complexitats i les evolucions de la tecnologia educativa i el seu impacte en les estratègies d'ensenyament.

PARAULES CLAU: disseny pedagògic; educacio; tecnología; cooperación educativa; mètodes d'ensenyament

UNA VISIÓN DE CÓMO FUNCIONA LA EDUCACIÓN

Cómo funciona la educación: enseñanza, tecnología y técnica" de Dron es una contribución significativa a la literatura educativa que se centra en el ámbito polifacético de la enseñanza con tecnología. Adoptando una narración autobiográfica, el autor pone en primer plano sus ricas experiencias en diseño instruccional y educación mediada por tecnología. Este trabajo examina críticamente las interacciones dinámicas entre los métodos pedagógicos, las herramientas y los diversos actores del entorno educativo. El libro hace hincapié en la necesidad de la coparticipación y la flexibilidad en los sistemas educativos, a la vez que reconoce los complejos retos que plantea la diversidad del aprendiz. A través de la mirada de un educador experimentado, sirve como espejo para que los lectores reflexionen sobre sus prácticas pedagógicas, invita a la meditación introspectiva sobre las metodologías de enseñanza y proporciona una plataforma para discutir los obstáculos comunes en los escenarios de aprendizaje mejorados por la tecnología. Esta revisión avala el libro de Dron como una lectura esencial para los educadores, diseñadores de instrucción y estudios interesados en las complejidades y evoluciones de la tecnología educativa y su impacto en las estrategias de enseñanza.

PALABRAS CLAVE: diseño pedagógico; educación; tecnología; cooperación educativa; métodos de enseñanza