BIBLIOGRAPHIE

Analyse de l’apprentissage

Recherche effectuée en août 2018 par le CDC pour un laboratoire sur l’analyse de l’apprentissage de la Vitrine Technologie-Éducation

Documents disponibles au Centre de documentation collégiale (CDC) – Archive ouverte EDUQ.info et autres liens externes

Cliquez sur les liens en vert pour accéder au texte intégral des documents. L’accès aux livres électroniques et aux articles provenant de bases de données externes nécessite une connexion à votre compte du CDC.

Pour créer un compte personnel au CDC, compléter l’inscription sur notre site web sous l’onglet Connexion. Pour un traitement rapide de votre inscription, utiliser votre courriel de votre établissement collégial au lieu de votre courriel personnel.

Nous contacter pour toute demande d’assistance : info@cdc.qc.ca. Tous nos services sont sans frais.

Documents accessibles en ligne (sans connexion au compte CDC)

Les documents listés ci-dessous sont directement accessibles en cliquant sur les liens. La plupart de ces suggestions proviennent du blogue de Rafael Scapin : DawsonITE.


to fail, it is necessary to have a clear vision of what you want to achieve with learning analytics, a vision that closely aligns with institutional priorities.


Livres numériques accessibles avec la connexion au compte CDC

Les documents listés ci-dessous nécessitent la connexion au compte CDC. Si vous avez déjà un compte personnel du CDC, cliquez sur le lien du document que vous souhaitez consulter : on vous demandera de vous connecter, ensuite vous pourrez lire le livre en ligne. Si vous n’avez pas de compte CDC, complétez tout d’abord votre inscription sur notre site web sous l’onglet Connexion.

Anderson, M., & Gavant, C. (2016). *Developing Effective Educational Experiences through Learning Analytics*. Pennsylvania, United States: IGI Global. Consulté à l’adresse http://ez-proxy.cdc.qc.ca/login?url=https://ebookcentral.proquest.com/lib/cdcqc1-ebooks/detail.action?docID=4448128 Résumé: *The quality of students’ learning experiences is a critical concern for all higher education institutions. With the assistance of modern technological advances, educational establishments have the capability to better understand the strengths and weaknesses of their learning programs. Developing Effective Educational Experiences through Learning Analytics is a pivotal reference source that focuses on the adoption of data mining and analysis techniques in academic institutions, examining how this collected information is utilized to improve the outcome of student learning. Highlighting the relevance of data analytics to current educational practices, this book is ideally designed for researchers, practitioners, and professionals actively involved in higher education settings.*

Bernhardt, V. L. (2017). *Data Analysis for Continuous School Improvement* (4th edition). New York: Routledge. Consulté à l’adresse http://ez-proxy.cdc.qc.ca/login?url=https://ebookcentral.proquest.com/lib/cdcqc1-ebooks/detail.action?docID=5050381 Résumé: *This book is a call to action. It is about inspiring schools and school districts to commit to continuous school improvement by providing a framework that will result in improving teaching for every teacher and learning for every student through the comprehensive use of data. A culmination of over 30 years of doing the hard work in schools and districts both nationally and internationally, Data Analysis for Continuous School Improvement shares new, evidence-based learnings about how to analyze, report, communicate, and use multiple measures of data. The updated edition provides a wealth of tools, protocols, timelines, examples, and strategies that will help schools and districts become genuine learning organizations. Data Analysis for Continuous School Improvement provides a new definition of school improvement, away from a singular focus on compliance, toward a true commitment to excellence.*

of newly available data sources and analytical approaches. The application of data-intensive research techniques to understanding and improving learning environments has been growing at a rapid pace. In this book, three leading researchers convey lessons from their own experiences--and the current state of the art in educational data mining and learning analytics more generally--by providing an explicit set of tools and processes for engaging in collaborative data-intensive improvement.

Kumar Singh, M., Zerihun, Z., & Singh, N. (2018). *Impact of Learning Analytics on Curriculum Design and Student Performance*. Pennsylvania, United States: IGI Global. Consulté à l’adresse http://ez-proxy.cdc.qc.ca/login?url=https://ebookcentral.proquest.com/lib/cdcqc1-ebooks/detail.action?docID=5287919 Résumé: The quality of students' learning experiences is a critical concern for all educational institutions. With the assistance of modern technological advances, educational establishments have the capability to better understand the strengths and weaknesses of their learning programs. Impact of Learning Analytics on Curriculum Design and Student Performance is a critical scholarly resource that examines the connection between learning analytics and evaluations and their impact on curriculum design and student performance in educational institutions. Featuring coverage on a broad range of topics, such as academic support, large scale assessment, and educational research methods, this book is geared towards educators, professionals, school administrators, researchers, and practitioners in the field of education.

Larusson, J. A., & White, B. (2014). *Learning Analytics: From Research to Practice*. New York: Springer. Consulté à l'adresse http://ez-proxy.cdc.qc.ca/login?url=https://ebookcentral.proquest.com/lib/cdcqc1-ebooks/detail.action?docID=4809849 Résumé: Learning Analytics Explained draws extensively from case studies and interviews with experts in order to discuss emerging applications of the new field of learning analytics. Educational institutions increasingly collect data on students and their learning experiences, a practice that helps enhance courses, identify learners who require support, and provide a more personalized learning experience. There is, however, a corresponding need for guidance on how to carry out institutional projects, intervene effectively with students, and assess legal and ethical issues. This book provides that guidance while also covering the evolving technical architectures, standards, and products within the field.

illuminate trends and predict future outcomes. While promising, there is limited and mixed empirical evidence related to its efficacy to improve student retention and completion. Further, learning analytics tools are used by a variety of people on campus, and as such, its use in practice may not align with institutional intent. This monograph delves into the research, literature, and issues associated with learning analytics implementation, adoption, and use by individuals within higher education institutions. With it, readers will gain a greater understanding of the potential and challenges related to implementing, adopting, and integrating these systems on their campuses and within their classrooms and advising sessions. This is the fifth issue of the 43rd volume of the Jossey-Bass series ASHE Higher Education Report. Each monograph is the definitive analysis of a tough higher education issue, based on thorough research of pertinent literature and institutional experiences. Topics are identified by a national survey. Noted practitioners and scholars are then commissioned to write the reports, with experts providing critical reviews of each manuscript before publication.

Sclater, N. (2017). Learning Analytics Explained. New York: Routledge. Consulté à l’adresse http://ez-proxy.cdc.qc.ca/login?url=https://ebookcentral.proquest.com/lib/cdcqc1-ebooks/detail.action?docID=4809849 Résumé: Learning Analytics Explained draws extensively from case studies and interviews with experts in order to discuss emerging applications of the new field of learning analytics. Educational institutions increasingly collect data on students and their learning experiences, a practice that helps enhance courses, identify learners who require support, and provide a more personalized learning experience. There is, however, a corresponding need for guidance on how to carry out institutional projects, intervene effectively with students, and assess legal and ethical issues. This book provides that guidance while also covering the evolving technical architectures, standards, and products within the field.

Zilvinskis, J., & Borden, V. (2017). Learning analytics in higher education. New Directions for Higher Education, (179). Consulté à l’adresse http://ez-proxy.cdc.qc.ca/login?url=https://ebookcentral.proquest.com/lib/cdcqc1-ebooks/detail.action?docID=5085142 Résumé: Gain an overview of learning analytics technologies in higher education, including broad considerations and the barriers to introducing them. This volume features the work of practitioners who led some of the most notable implementations, like: the Open Learning Initiative now at Stanford University, faculty-led projects at the University of Michigan, including ECoach and SLAM, the University of Maryland, Baltimore County’s Check My Activity and Indiana University’s FLAGS early warning system and e-course advising initiatives. Readers will glean from these experiences, as well as from a national project in Australia on innovative approaches for enhancing student experience, an informed description of the role of feedback within these technologies, and a thorough discussion of ethical and social justice issues related to the use of learning analytics, and why higher education institutions should approach such initiatives cautiously, intentionally, and collaboratively.
Articles accessibles avec la connexion au compte CDC

Les documents listés ci-dessous nécessitent la connexion au compte CDC. Si vous avez déjà un compte personnel du CDC, cliquez sur le lien du document que vous souhaitez consulter : on vous demandera de vous connecter, ensuite vous pourrez lire l’article en ligne ou le télécharger. Note : l’accès aux articles provenant de la base de données ProQuest peut être très lent si vous utilisez Chrome : il est préférable d’utiliser Firefox ou Explorer si vous éprouvez des problèmes avec l’affichage du texte.

Si vous n’avez pas de compte CDC, complétez tout d’abord votre inscription sur notre site web sous l’onglet Connexion.

Amigud, A., Arnedo-Moreno, J., Daradoumis, T., & Guerrero-Roldan, A.-E. (2017). Using Learning Analytics for Preserving Academic Integrity. The International Review of Research in Open and Distributed Learning, 18(5). Consulté à l’adresse https://www.learntechlib.org/p/180432/ Résumé : This paper presents the results of integrating learning analytics into the assessment process to enhance academic integrity in the e-learning environment. The goal of this research is to evaluate the computational-based approach to academic integrity. The machine-learning based framework learns students’ patterns of language use from data, providing an accessible and non-invasive validation of student identities and student-produced content. To assess the performance of the proposed approach, we conducted a series of experiments using written assignments of graduate students. The proposed method yielded a mean accuracy of 93%, exceeding the baseline of human performance that yielded a mean accuracy rate of 12%. The results suggest a promising potential for developing automated tools that promote accountability and simplify the provision of academic integrity in the e-learning environment.

Clarke, J., & Nelson, K. (2013). Perspectives on Learning Analytics: Issues and challenges. Observations from Shane Dawson and Phil Long. The International Journal of the First Year in Higher Education, 4(1). Consulté à l’adresse https://search.proquest.com/docview/1365675167/abstract/964A50E6005C4410PQ/1 Résumé: Analytics is a field of research and practice that aims to reveal new patterns of information through the aggregation of large sets of data held in previously distinct sources drawing on a number of informing disciplines. This feature details observations sought on learning analytics from two specialists in the field. Shane Dawson, Deputy Director, Academic Learning Services, University of South Australia, along with Phil Long, Director, Centre for Educational Innovation and Technology, University of Queensland have contributed to a wide-ranging discussion on some of the issues and challenges related to Learning Analytics in higher education in general, and also in relation to its application to first year students and their staff.

Résumé : Analysis of the data collected in Massive Open Online Courses (MOOCs) allows for the assessment of massive learning processes and behavior. Many criticize MOOCs for their high rate of dropout. In this study, a model was developed for early identification of learners at risk of dropping out. Due to various motivations for MOOC registration, dropout is defined as termination of participation before achieving the learner aims and purposes. This model is based on learning behavior variables and monthly alerts, which indicate patterns of activity and behavior that may lead to dropout. Five types of learners with similar behavior were identified; non-active learners, video-based learners, video and assignment-based learners, assignment-oriented learners, and active learners. A statistically significant model resulting from a linear regression analysis, explains 45% of the learner achievement variance. Early recognition of dropouts may assist in identifying those who require support.


Résumé : The analysis of data collected from the interaction of users with educational and information technology has attracted much attention as a promising approach for advancing our understanding of the learning process. This promise motivated the emergence of the new research field, learning analytics, and its closely related discipline, educational data mining. This paper first introduces the field of learning analytics and outlines the lessons learned from well-known case studies in the research literature. The paper then identifies the critical topics that require immediate research attention for learning analytics to make a sustainable impact on the research and practice of learning and teaching. The paper concludes by discussing a growing set of issues that if unaddressed, could impede the future maturation of the field. The paper stresses that learning analytics are about learning. As such, the computational aspects of learning analytics must be well integrated within the existing educational research.

Gibson, D., & de Freitas, S. (2016). Exploratory Analysis in Learning Analytics. Technology, Knowledge and Learning, 21(1), 5–19. Consulté à l’adresse https://search.proquest.com/docview/1773180723/abstract/7A8A6526D4C42F8PQ/2 Résumé: This article summarizes the methods, observations, challenges and implications for exploratory analysis drawn from two learning analytics research projects. The cases include an analysis of a games-based virtual performance assessment and an analysis of data from 52,000 students over a 5-year period at a large Australian university. The complex datasets were analyzed and iteratively modeled with a variety of computationally intensive methods to provide the most effective outcomes for learning assessment, performance management and learner tracking. The article presents the research contexts, the tools and methods used in the exploratory phases of analysis, the major findings and the implications for learning analytics research methods.

With the increase in available educational data, it is expected that Learning Analytics will become a powerful means to inform and support learners, teachers and their institutions in better understanding and predicting personal learning needs and performance. However, the processes and requirements behind the beneficial application of Learning and Knowledge Analytics as well as the consequences for learning and teaching are still far from being understood. In this paper, we explore the key dimensions of Learning Analytics (LA), the critical problem zones, and some potential dangers to the beneficial exploitation of educational data. We propose and discuss a generic design framework that can act as a useful guide for setting up Learning Analytics services in support of educational practice and learner guidance, in quality assurance, curriculum development, and in improving teacher effectiveness and efficiency. Furthermore, the presented article intends to inform about soft barriers and limitations of Learning Analytics. We identify the required skills and competences that make meaningful use of Learning Analytics data possible to overcome gaps in interpretation literacy among educational stakeholders. We also discuss privacy and ethical issues and suggest ways in which these issues can be addressed through policy guidelines and best practice examples.

Ifenthaler, D., & Schumacher, C. (2016). Student perceptions of privacy principles for learning analytics. Educational Technology, Research and Development, 64(5), 923-938. Consulté à l’adresse https://search.proquest.com/docview/1830017331/abstract/F25742DD58E4DACPQ/1 Résumé: The purpose of this study was to examine student perceptions of privacy principles related to learning analytics. Privacy issues for learning analytics include how personal data are collected and stored as well as how they are analyzed and presented to different stakeholders. A total of 330 university students participated in an exploratory study confronting them with learning analytics systems and associated issues of control over data and sharing of information. Findings indicate that students expect learning analytics systems to include elaborate adaptive and personalized dashboards. Further, students are rather conservative in sharing data for learning analytics systems. On the basis of the relationship between the acceptance and use of learning analytics systems and privacy principles, we conclude that all stakeholders need to be equally involved when learning analytics systems are implemented at higher education institutions. Further empirical research is needed to elucidate the conditions under which students are willing to share relevant data for learning analytics systems.

promises to empower instructors and learners in different educational fields. The 2014 horizon report (Johnson et al., 2014), expects it to be adopted by educational institutions in the near future. However, the processes and phases as well as constraints are still not deeply debated. In this research study, the authors talk about the essence, objectives and methodologies of Learning Analytics and propose a first prototype life cycle that describes its entire process. Furthermore, the authors raise substantial questions related to challenges such as security, policy and ethics issues that limit the beneficial appliances of Learning Analytics processes.

Résumé: Learning analytics is an emerging field in which sophisticated analytic tools are used to inform and improve learning and teaching. Researchers within a regional university in Australia identified an association between interaction and student success in online courses and subsequently developed a learning analytics system aimed at informing learning and teaching practices. Contemporary literature draws attention to ethical considerations and moral tensions in the implementation of learning analytics. This paper presents a case study of the ethical implications of a learning analytics implementation at CQUniversity, a regional Australian university. There was an institutional assumption that student data, consensually gathered at enrollment could be analyzed beyond the scope of the original consent. Further, academics were using the data in a manner not intended by the designers of the learning analytic system, and academics interpreted the student’s individualized data to label students based on their estimate of success. The learning analytics system is still being used and the ethical findings from this paper have implications for CQUniversity, academics and students. In order to resolve the ethical dilemmas the university could increase transparency of the process to students and obtain consent at multiple levels throughout the student journey.

Résumé: In the new era of big educational data, learning analytics (LA) offer the possibility of implementing real-time assessment and feedback systems and processes at scale that are focused on improvement of learning, development of self-regulated learning skills, and student success. However, to realize this promise, the necessary shifts in the culture, technological infrastructure, and teaching practices of higher education, from assessment-for-accountability to assessment-for-learning, cannot be achieved through piecemeal implementation of new tools. We propose here that the challenge of successful institutional change for learning analytics implementation is a
wicked problem that calls for new adaptive forms of leadership, collaboration, policy development and strategic planning. Higher education institutions are best viewed as complex systems underpinned by policy, and we introduce two policy and planning frameworks developed for complex systems that may offer institutional teams practical guidance in their project of optimizing their educational systems with learning analytics.

Mahroeian, H., & Daniel, B. K. (2016). The Dynamic Landscape of Higher Education: The Role of Big Data and Analytics (p. 1320-1325). Présenté à EdMedia: World Conference on Educational Media and Technology, Association for the Advancement of Computing in Education (AACE). Consulté à l’adresse https://www.learntechlib.org/primary/p/173125/ Résumé : Over the years, a number of institutions have systematically deployed new technologies to support learning and teaching. Lately, institutions have begun to explore new forms of data in order to understand and effectively address its systemic challenges, and help support effective decision-making. This paper describes the dynamic changes in the landscape of higher education and the challenges that brought about these changes in the 21st century. It will then examine the role of data, particular, Big Data and Analytics in helping the sector adapt to its turbulent environment. The last section finally concludes the paper and describes our ongoing research in the area.

Scheffel, M., Drachsler, H., Stoyanov, S., & Specht, M. (2014). Quality Indicators for Learning Analytics. *Journal of Educational Technology & Society*, 17(4), 117-132. Consulté à l’adresse https://search.proquest.com/docview/1660157092/abstract/7A8A6526D4C42F8PQ/3 Résumé: This article proposes a framework of quality indicators for learning analytics that aims to standardise the evaluation of learning analytics tools and to provide a mean to capture evidence for the impact of learning analytics on educational practices in a standardised manner. The criteria of the framework and its quality indicators are based on the results of a Group Concept Mapping study conducted with experts from the field of learning analytics. The outcomes of this study are further extended with findings from a focused literature review.

Scholes, V. (2016). The ethics of using learning analytics to categorize students on risk. *Educational Technology, Research and Development*, 64(5), 939-955. Consulté à l’adresse https://search.proquest.com/docview/1830017408/abstract/F2C1E36B870C4CB9PQ/19 Résumé: There are good reasons for higher education institutions to use learning analytics to risk-screen students. Institutions can use learning analytics to better predict which students are at greater risk of dropping out or failing, and use the statistics to treat 'risky' students differently. This paper analyses this practice using normative theories of discrimination. The analysis suggests the principal ethical concern with the differing treatment is the failure to recognize students as individuals, which may impact on students as agents. This concern is cross-examined drawing on a philosophical argument that suggests there is little or no distinctive difference between assessing individuals on group risk statistics and using more 'individualized' evidence. This paper applies this argument to the use of learning analytics to risk-screen students in higher education. The paper
offers reasons to conclude that judgment based on group risk statistics does involve a distinctive failure in terms of assessing persons as individuals. However, instructional design offers ways to mitigate this ethical concern with respect to learning analytics. These include designing features into courses that promote greater use of effort-based factors and dynamic rather than static risk factors, and greater use of sets of statistics specific to individuals.

West, D., Huijser, H., & Heath, D. (2016). Putting an ethical lens on learning analytics. *Educational Technology, Research and Development, 64*(5), 903–922. Consulté à l’adresse https://search.proquest.com/docview/1830017402/abstract/F2C1E36B870C4CB9PQ/12 Résumé: As learning analytics activity has increased, a variety of ethical implications and considerations have emerged, though a significant research gap remains in explicitly investigating the views of key stakeholders, such as academic staff. This paper draws on ethics-related findings from an Australian study featuring two surveys, one of institutional leaders (n = 22) and one of academic staff (n = 353), as well as a set of follow-up interviews (n = 23) with academic level staff. A self-selecting sample of participants was asked about the ethical issues they see as important in learning analytics and about the types of ethical principles or considerations they thought should guide learning analytics use. Data showed participants’ views did tend to align with established ethical principles, though the language used to express this varied widely. Building on, and in response to, both the data and the literature review the paper proposes an ethical decision making framework that encourages institutional leaders and those involved in implementing learning analytics to consistently apply and document ethical decision making processes as part of an overall approach to developing well-aligned and transparent institutional policies and broader ethical literacy.

Article accessible via la base de données Cairn (offerte par votre bibliothèque de collège ou université)

Le document listé ci-dessous a été répertorié sur la base de données Cairn. Celle-ci vous est habituellement offerte par votre bibliothèque de collège ou université. Contactez l’équipe de votre bibliothèque pour obtenir des informations sur la façon de procéder afin de consulter ce document.