# Learning Transitions in Studying Development: Design, Methodologies/Approaches, Tools in the Digital and Hybrid Platforms

#### **Alexander Michael Palma**

Assistant Professor, Asian Center of the University of the Philippines, Philippines, agpalma1@up.edu.ph

#### Abstract

Post-pandemic realities paved the way for certain innovative learning approaches to address the risks associated with traditional educational settings, inefficiencies in mobility, limited access to facilities and resources, and vulnerability to disease of student and teaching population, among others. Learning interactions in digital space remain to be further explored, requiring adjustments in the design of courses, pedagogical approaches, methodologies, and tools employed. The adjustments were seen as imperative at all levels of education and across mainstream fields of studies but even more pronounced, in multidisciplinary and interdisciplinary research study areas, such as Development Studies. Development research underwent learning transitions to retain its relevance as an important academic field. The combined online and in-site learning settings still have effective and efficient modalities of studying development, as argued in prevailing literature. This paper aims to find rationality in course design and structure, given the learners' background and academic program tracks, as well as the teaching tools and instruments necessary in a combined learning modality. The challenge is how learners can be more engaged in discussions and provide participatory feedback. Another objective of this work is to provide documented experience of the issues and challenges in hybrid platforms as seen from the lens of development studies. Pedagogical approaches conform to the changes through case presentations that otherwise solicit lesser attention span and absorption. Teaching methods should complement the approaches by ensuring that the lessons from thematic discussions are reinforced through a learning synthesis. Synthesizing the discussions on development issues consolidates salient points that usually emerge from cross-cutting concerns that are characteristics of multidisciplinary and interdisciplinary studies. Recent studies explored how innovation may translate into the creative use of tools and their application in digital space learning, from which institutions of higher education and government may draw lessons from.

Keywords: Development studies, learning, online, distance education

#### Introduction

Learning environments continue to evolve as a result of many factors including

unforeseen occurrences such as a pandemic outbreak. Not only do adjustments in learning settings need to be configured, but also the associated teaching content, methodologies and approaches, tools, and even the platforms. These innovative adjustments are even more imperative in study areas that embrace several disciplines and require interdisciplinary learning such as development. Even before the pandemic, the challenge in development studies and its pedagogy has been on how theoretical concepts may be translated to field applications, especially because these concepts are not constant and change over time. This challenge became more pronounced at the onset of the pandemic, when field learning became more limited, and access to both documented and undocumented resources constrained.

The problem in learning transitions in studying development found gradual solutions through a reconfiguration of the design of courses with a greater focus on contents that are more relatable and current, teaching methodologies that provide a premium to case analysis, and tools and instruments that can be more effective in both digital space application and in-site. These adjustments may not be unique to studying development, but imperative across all levels of education, from primary level to postgraduate and even mainstream study areas. Distance education has become increasingly popular globally, and its critical role in higher education has become the subject of many studies. The impact of this modality of learning has been assessed in the works of Luyt (2013) and Li and Irby (2008), where the widespread access to the internet, and the ease of online learning created the demand for different higher education platforms. In many less-developed and even developing economies, however, digital infrastructure remains in a less-progressive state, which limits internet access to many geographical areas. This became evident when hybrid platforms in learning were adopted, even more so during the pandemic era, when a purely online modality was imposed. This situation is not unique to primary and secondary education, but the reality affects both the student and teaching population, and the institutions of learning and government. The problems resulted in the schools' investing in facilities and network subscriptions because of greater demand to shift to digital platforms (Limperos et al., 2015). In the Philippines, such cost to additional capital investment is often negated by many schools because of the significant decline in enrolment. Such decline was attributed to the learners' difficulty to conform to the abrupt shift. Therefore, learning demand has seen a divided segment between students who have online access and want to capitalize more on digital learning vis-à-vis the students deciding to delay their engagement under the prevailing set-ups.

Experimental learning set-up combining both online and hybrid platforms in the conduct of development studies provides many key lessons learned on how to balance efficiency versus effectiveness. The discussion in this paper aims to draw the interventions on how learning transitions may resonate with the needs of the learners and the ability of educational institutions to respond to the demands while sustaining the viability of their operations, and for the government to extend the needed infrastructure and policy support.

The learning environment for development studies and research illustrates how

the transition in study content, course structure, pedagogical approaches, and tools may take place taking into account the nature of the study areas and optimizing the resources that both digital and non-digital space can offer.

## Objectives

Several literature have devoted studies on distance education per se during the pre-pandemic period, from which many issues provide useful groundwork for this study. The primary aim of this paper is to explore the learning transition in a field or discipline such as development and examine how a learning model can be structured in terms of design, methodologies, approaches, teaching tools, and assessment instruments may be structured.

One of the specific objectives of this work is to provide a documented experience of combined in-site and online learning environments, as well as the issues and constraints in the adoption of such hybrid platforms. More specifically, the learning settings in the courses that include Regional Integration in Asia; Design and Evaluation of Development Projects; Industrialization and Urbanization; Special Problems in Philippine Development; and Readings in Development were assessed. These courses were taught during the first and second semesters of academic years 2022-2023. Careful attention was given to how online group exercises, and presentation of case studies were effectively delivered and responded to in both purely online and hybrid learning environments. The quality of synthesis papers submitted was evaluated, as well as the student feedback on the areas that require enhancement or further adjustments.

In the discussion process, the paper also hopes to shed light on how learning transition addresses the problem of efficiency vs. effectiveness, and how measures can be drawn to align the evolving educational set-up to the actual needs and demands in higher education by institutions of learning and government.

## **Review of Related Studies**

An attempt to find the extent of how online education is integrated in higher education was embodied in the work of Kebritchi et al. (2017). In this work, a literature review was synthesized to explore the issues and major challenges in online education. This involved data analyses and evaluation of empirical data on learning and teaching issues, excluding institutional issues that relate to administrative policies, budgets, and program development. Although the review was systematic, its scope was non-exhaustive. Institutional consideration is a necessary element to make a comprehensive discussion in the learning transitions, especially in specific study disciplines such as development. This will allow a better appreciation of how the integration of online education may best be achieved. Figure 1 illustrates how a cluster of issues affects the tripartite process in a cycle, which governs the conceptual framework of this study.

# Figure 1



Conceptual Framework in the Analysis of Clustered Issues

It is particularly interesting to note in some studies that learners' expectations to include immediate feedback or real-time guidance on assignments, and even expectations on the grading basis, and adherence to assignment deadlines (Li & Irby, 2008; Lyons, 2004) were probed. The readiness of students, particularly the compliance to consistently attend course classes was tackled in the works of Hung et al. (2010) and Smith et al. (2003). Ensuring class participation through attendance was a dominant issue at the onset of the pandemic because of the lack of mental preparation to deal with an entirely robust set-up, notwithstanding the accompanying technical constraints that learners are confronted with, arising from poor or unstable network connections, unfamiliarity to digital exchange platforms, power outages, etc. The physical environment for online learning proved to be a major consideration such as the onslaught of typhoons and climate conditions, and spatial factors conducive to learning, among others. This is a consideration in the employ of effective tools and instruments, and even in the methodologies of teaching. The preparedness of learners is also shaped by their competence in computer skills, adeptness to the internet cultural and language backgrounds (Luyt, 2013), and even their time management abilities (Hill, 2002; Roper, 2007). The needed preparation of students proved to be universal in the aforementioned conditions. In development studies, and in other disciplines, access to different types of online references is a crucial element of learning, and the preparedness of learners on the aspect of optimally utilizing the digital space becomes not only a sufficient but also a necessary condition.

In contrast to purely distance education, hybrid platforms or combined in-site learning balance the effects of a complete departure from traditional learning modalities. This proved to be very effective in development studies where interaction, sharing, and plenary discussions are useful teaching approaches.

Koole (2014) explained the importance of building a sense of identity among learners by affiliating themselves with a community of learners. This is what separates distance education from in-site learning, in a way that the latter develops a sense of belonging, purpose, and norms, as argued by Koole, and in another study by Lapadat in 2007. Kazu and Yalcin (2022) conducted a comprehensive meta-analysis of 44 quantitative studies that were undertaken between the years 2010 to 2020 to verify the assertion that a hybrid learning environment has an overall effect on students' academic achievements. The studies were classified according to a control group of courses taught in a traditional method, and another experimental set of courses administered through a hybrid learning set-up. The analyses exhibited the pronounced effect of hybrid learning settings on biology or science courses in general. Toward the close of the pandemic era, learning experiments in graduate work including the teaching of development studies in a hybrid format suggests that more is desired to strike the balance between effectiveness and efficiency. However, based on students' feedback, the gradual return of classroom discussions is a welcome development. The opportunity to socially interact reinforces the sense of identity among students, especially when learning exchanges are relatable to them such as discussion of common issues in development.

To complete the major issues in learning transitions, learners' expectations, preparedness, and identity are identified to be crucial in learners' participation in an online setting. Participation of learners and engaging them in the exchange are two different concerns using electronic platforms. Hrastinski (2008; 2009) distinguishes engagement in learning, in terms of both reading and writing, while participation comes largely through online listening and observing (Wise et al., 2013). Romozowski and Mason (2004) on the other hand, challenged the notion that passive participation is construed as mere participation, and later studies by Hrastinski (2009) considered even online listening and observing as a form of active learning. Therefore, it may be too conclusive to state that the effectiveness of online learning in hybrid platforms may be assessed based on the extent of online participation. Given this, it becomes an immense task for teachers to consider the discipline or field of study and carefully examine other tools and instruments that are key to extracting learners' participation. For example, in the development studies, online team exercises allow each student to provide insightful or qualitative responses to assigned questions that may be interconnected to the responses of other learners. Using this as a teaching tool, the instructor is able to assess the depth and uniqueness of thought, and the ability of the learner to build on the insights of others, rather than judging participation on the length or quantity of their responses or online postings. This is similar to the concept of vicarious learning gained by observing the active dialogue of others (Kolb, 1984; Mclendree et al., 1998).

The pandemic era compelled many educational institutions and governments to introduce necessary measures that will enable learners to maximize the benefits of combined e-learning and in-site instruction. The combination caused an inevitable strain on the delivery of infrastructure, tools modification, facility arrangements, administrative policies, and even the skills and competence of teaching staff. It has become a realization that learning in the post-pandemic era will require reconfiguring traditional in-site set-up and exploring what hybrid platforms can offer in specific disciplines or fields of study. It should be recognized that there is uniqueness in each of these disciplines in which the utilization of online and in-site learning should be carefully assessed.

### **Research Methodology and Design**

The research methodology of this study involves a qualitative analysis of the content design and structure of five development courses conducted at the Asian Center namely, Regional Integration in Asia; Design and Evaluation of Development Projects; Industrialization and Urbanization; Special Problems in Philippine Development; and Readings in Development. These courses were conducted during the first and second semesters of the academic year 2022-2023. During this period, the first three courses were administered purely online, while the last two courses were in a hybrid learning format. A total of 16 students were evaluated based on the frequency and quality of their participation, interactions, and written outputs. The findings of this study are anchored on the qualitative evaluation while contrasting the teaching methodologies and approach, as well as the tools and instruments adopted in these courses. Evaluation of case study presentations, quality of synthesis papers submitted, and results from online group discussions were utilized to support the findings in this work.

#### Discussions

Development studies as a discipline requires more than just a discussion of theoretical concepts. It needs to be related to actual field practices and applications, in which documented references may take the form of discussion papers, technical reports by institutions, policy documents, working proceedings, project reports, and program evaluations and assessments. The effectiveness of hybrid learning platforms would vary according to disciplines. This was established in a meta-analysis study conducted by Kazu and Yalcin (2022) that examined the integration of both distance and face-to-face learning in hybrid learning. In this study, where experimental groups across ten disciplines were organized in the meta-analysis, it was found that certain disciplines appear to be most effective in hybrid learning based on the academic achievements of the participants. The findings suggest that among the disciplines subject of study, the medicine course with the lowest effect size (ES) appears to be least responsive under the hybrid setting.

This indicates that hybrid learning platforms should be accompanied with reconfiguration so they may render effective in different disciplines. In learning development studies, such reconfiguration in the course design and content, teaching methodology and approach, tools, and instruments are integral adjustments in the transition to a hybrid platform. Kazu and Yalcin's (2022) findings further support that, while science courses taught under a hybrid learning set-up appear to be less effective and responsive, other disciplines may follow the same outcomes.

## **Course Design/Structure and Content Development**

The structure of a course in development studies should not be static to enable

the differing interactions generated by learners during face-to-face and online learning. To avoid being static, this means that the course may be designed to allow learners to make presentations of varying types of literature. Case studies provide illustrative examples of development issues that are interestingly tackled during in-site discussions. Policy literature on the other hand, requires detailed analyses to be presented online, drawing some contrasting perspectives from historical references. Development involves a study of the progression of events which can be drawn from historical narratives and relating this to current and more updated literature. During online presentations, students are encouraged not to limit themselves in discussing the assigned reading but to contrast this to specific periods in development. There are two reasons for encouraging learners to build on the given readings indicated in the course syllabus. First, this is an opportunity for learners to have a hand in further improving the course, which Evrim et al. (2011) called designing course content by adopting an active and autonomous role. Li and Irby (2008) acknowledged the challenging role instructors assume in identifying and adjusting the materials that should be used in hybrid platforms. Creativity and innovativeness are skills that may be exercised with experimentation in this case, which can be the subject of capacity-building or training, which schools should extend to improve teaching competence. These training and support were also recognized by Kyei-Blankson and Keengwe (2011), particularly in the aspect of transitioning course content from online to in-site learning.

# Instruction Methodology/Approach

Unlike other disciplines, development studies are inter-disciplinary and multidisciplinary, enabling instruction to take innovative methodologies and nontraditional approaches. During online discussions, the participation of learners may be solicited through real-time exercises that may involve each student responding to an assigned item in the exercise. In a Project Evaluation course, to solicit the participation of all students, they are given time to identify the elements of project evaluation in sample projects. While each student will have to work independently online, the consolidated responses will be integrated in a plenary discussion with facilitated guidance by the instructor. The extent of interactions and the quality measured in terms of engaged participation of all students in five group exercises were compared to two other courses on Special Problems in Philippine Development and Readings on Development, which were taught under a hybrid learning environment. The marked difference in the quality of student participation of a total of 16 students, and their interactions between the two sets of environments suggest a similar experimental outcome to that of Kazu and Yalcin's (2022) research findings.

The online classes also allow instructors to supplement the readings with lectures on technical information that students may not readily grasp from readings because of their diverse academic backgrounds, especially at the graduate level. Mathematical or empirical modeling, for example, may not be comprehensible for some participants requiring a separate lecture by the instructor to supplement how this may be explained in the reading. Such may be discussed online as this may be more visually appreciated through a presentation. At the outset, these students' backgrounds should be assessed

carefully by the instructor so that course design, content, and even instruction approach may be calibrated.

Emphasis should be given to the importance of peer-to-peer interaction during online discussions. In graduate work, one of the more popular formats to encourage interactive learning is through student presentation of assigned reference materials, incorporating a critical analysis rendered by another student. This format stimulates more in-depth exchanges among learners, with the instructor facilitating the process. This may be covered in one of the six principles of effective instruction referred to by Miller (2014) in his study of teaching strategies differentiated between online and in-site formats.

#### Tools/Instruments

Strategic use of multimedia presentations such as videos, simulations, films, and documentaries serves their purpose during online learning, but they should be employed with caution. The type of multimedia presentations should not replace the lesson itself, but should provide learners with opportunities for critical thinking or complement assigned reading topics. This should enhance the engagement of students in online discussions. In his 2013 work, Hathaway encouraged multiple types of multimedia learning tools to reinforce engagement. In contrast, peer collaboration was seen as another strategy to enhance this engagement according to Niess and Gillow-Wiles (2013), and hybrid platforms provide greater opportunities for such during in-site learning. Issues on development are very dynamic and current, they require students to be abreast of updated information generated from social and mainstream media. Based on class experiments, these are best discussed face-to-face further strengthening peer discussion and collaboration.

An important instrument involves the combined use of types of literature in development. In a development reading course, students are oriented to develop their analysis from historical narratives and documents that need updating through more current literature. Policy literatures in the form of laws, statutes, policies, and regulatory guidelines may be contrasted between governance periods to enable learners to explore the gaps, successes, and failures of development approaches. Presentation of case studies by students using a diverse set of literature, as an instrument of learning was assessed according to the generated interactions during the question-and-answer segment during the plenary discussion.

#### Conclusions

Given the findings from the consolidated literature review and the modeling of learning in a hybrid platform using development studies as a discipline, it can be concluded that effectiveness may vary in such platforms. This means that adjustments may be made in the design and structure of the course, methodologies and approaches in instruction, and the tools and instruments that may be employed. Moreover, it is not sufficient that the adjustments happen only from the side of learners and instructors. Institutions of learning and governments should provide support by way of administrative policies, infrastructure support, retrofitting of facilities, and re-tooling of educational personnel.

In the examination of issues, we find that a cluster of interventions should address these issues. The hybrid learning modality appears to be an inevitable yet viable feature of learning transition across disciplines in the future. Learning strategies should be actively pursued based on some basic principles. Expost evaluation on effectiveness based on outcomes from student output and feedback must be institutionalized after close consideration of in-site and online environments. School administrations should ensure that these are tracked, to establish that hybrid learning platforms for certain disciplines may not only be efficient but also effective.

After taking into account the learners' expectations, preparedness, identity, and perceived extent of participation, the structure of a development course may find alignment. Creativity and innovativeness in teaching methods may be exercised, as well as the tools and instruments to employ. Modeling these concerns to specific disciplines meant consideration of best practices that may serve as a possible guidepost for other areas or fields of study.

## Recommendations

It is made more apparent that the hybrid learning platform will be a future modality for many study disciplines. However, differing models of hybrid learning should be aligned to the salient features of the study areas within a discipline. A tripartite process involving the learner, instructor, and learning institution should shape the learning environment under a hybrid platform. It is difficult to prescribe which recommended measures should be satisfied first, explaining why the clustering of issues in Figure 1 is illustrated as cyclical.

First, a close examination of the areas of study should determine what thematic discussions can be facilitated through online and in-site settings. The factors taken into consideration would be the perceived participation of learners in particular themes. Such perceived participation may be stimulated by the characteristics of instruments such as reference materials used. If these learning materials are too technical and rich in concepts, it has been studied that online learning allows learners better control over these materials. On the other hand, exchanges that involve experiences and narratives are better facilitated through in-person interactions. The diverse types of literature used as references in the study of development allow instruction to proceed in combination with two settings thus, enabling experimentation in the deployment of topics. This allows for re-calibration of the course structure and design. As argued earlier, pedagogical methods and approaches may also vary to include real-time exercises online to solicit universal participation by every learner. Synthesis of class discussions may also be required in lieu of research papers with assigned themes. Synthesizing the discussions reinforces the learning by documenting the exchanges. The discussions are more relatable to each participant, encouraging everyone to listen and participate. Synthesis papers are also less likely to be plagiarized, as the content is unique to the class exchanges. It also gives the students an opportunity to build on the structure of discussions in the course. It would be ideal for a course profile on a program's webpage to reflect some of these students' inputs to give prospective students an idea of what to expect from a course. Thus, the synthesis also serves as a form of student feedback and appreciation of the directions of discussions in a course. In development studies, the integration of lessons learned from various readings is very essential and the thought processes generated from the synthesis of discussions may be considered a contribution to the existing body of knowledge. The exercise also trains the learners to engage in critical thinking, especially in addressing development issues.

Second, the learners' expectations should be a primary consideration in the learning transition. This translates to satisfying the demand by supplying a course that best responds to their needs. Student's background-academic, work, professional engagements, physical location, and even personal circumstances proved to be very important considerations in online learning, and even the ability to attend in-site sessions. These may also be partly addressed by adjustments in the administrative rules that include setting the frequency of mandatory face-to-face learning sessions, maximum allowable absences, and the like. All these contribute to the preparedness of the learner to fully satisfy the requirements of the course. This is part of what Knowles (1975) referred to as self-directed learning where the student needs to take control of understanding his learning needs, establishing learning goals, and implementing learning strategies. Autonomy in learning is best achieved in online settings, but the learner needs to make the necessary preparations and access to infrastructure. The adeptness to traditional in-site learning by most learners enables them to readily adjust to in-person discussions, but the shift from an online setting also needs planning and preparation on the part of the instructors and school administrations. In-site learning is crucial to a learner's identity who may find distance education isolating. The social interaction derived from this setting helps them to alleviate the feeling of being disconnected.

Lastly, the institutions in higher education need to take several measures to ensure that the hybrid platform will be efficient and effective. As earlier mentioned, alignment in administrative and academic policies must be pursued. The postpandemic reality saw the importance of retrofitting the physical facilities and network infrastructure, as well as systemic changes in the electronic platforms for registration and course information for students' evaluation, apart from what program advising can provide. Likewise, capacity-building measures of both administrative and academic staff should complement any learning transition in disciplines.

#### References

- Evrim, B., Correia, A., & Thompson, A. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. *Distance Education*, 32, 421-439. https://doi.org/10.1 080/01587919.2011.610293
- Hill, J.R. (2002). Overcoming obstacles and creating connections: Community building in web-based learning environments. *Journal of Computing in*

Higher Education, 14, 67-86. https://doi.org/10.1007/BF02940951

- Hrastinsksi, S. (2008). What is online learner participation? *Computers & Education*, 51. 1755-1765. https://doi.org/10.1016/j.compedu.2008.05.005
- Hrastinski, S. (2009). Atheory of online learning as online participation. *Computers & Education*, 52. 78-82. https://doi.org/0.1016/j.compedu.2008.06.009
- Hung, M. Chou. C., Chen C., & Own, Z. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*, 55, 1080-1090. https://doi.org/10.1016/j. compedu.2010.05.004
- Hathaway, K.L. (2013). An application of the seven principles of good practice to online courses. *Research in Higher Education Journal*, 22, 1-13.
- Kazu, I.Y., & Yalcin, C.K. (2022). Investigation of the Effectiveness of Hybrid Learning on Academic Achievement: A Meta-Analysis Study, International Journal of Progressive Education, 18 (1), 249-265. https:// doi.org/10.29329/ijpe.2022.426.14
- Kebritichi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. *Journal of Educational Technology Systems*, 46 (1), 4-29. https://doi.org/10.1177/0047239516661713
- Knowles, M.S. (1975). *Self-directed learning; A guide for learners and teachers.* Association Press.
- Kolb, D.A.(1984). Experiential learning Experience as the source of learning and development. Prentice-Hall.
- Koole, M. (2014). Identity and the itinerant online learner. *The International Review of Research in Open and Distance Learning*, 15. 52-70. https://doi.org/10.19173/irrodl.v15i6.1879
- Kyei-Blankson, L., & Keengwe, J. (2011). Faculty-faculty interactions in online learning environments. *International Journal of Information and Communication Technology Education*, 7. 25-33
- Lapadat, J.C. (2007). Discourse devices used to establish community, increase coherence and negotiable agreement in an online university course. *International Journal of E-Learning & Distance Education,* 11. 59-92. https://www.ijede.ca/index.php/jde/article/view/32
- Li, C. & Irby, B. (2008). An Overview of online education: Attractiveness, benefits, challenges, concerns, and recommendations. *College Student Journal*, Part A, 42, 449-458. https://www.learntechlib.org/p/103183/

Limperos, A., Buckner, M., Kaufman, R. & Frisby, B.N. (2015). Online teaching

95

and technological affordances: An experimental investigation into the impact of modality and clarity on perceived and actual learning. *Computers and Education*, 83, 1-9. https://doi.org/10.1016/j.compedu.2014.12.015

- Luyt, I. (2013). Bridging Spaces. Cross-cultural perspectives on promoting positive online learning experiences. *Journal of Educational Technology Systems*, 42, 3-20. https://doi.org/10.2190/ET.42.1.b
- Lyons, J.F. (2004). Teaching U.S. history online: Problems and Prospects. The *History of Teacher*, 37, 447-456. https://www.learntechlib.org/p/76686/
- McKlendree, J., Stenning, K., Mayes, T., Lee, J. & Cox, R. (1998). Why observing a dialogue may benefit learning. *Journal of Computer Assisted Learning*, 14, 110-119. https://doi.org/10.1046/j.1365-2729.1998.1420110.x
- Miller, M.D. (2014). Minds online: *Teaching effectively with technology.* Harvard University Press. https://doi.org/10.4159/harvard.9780674735996
- Niess, M., & Gillow-Wiles, H. (2013). Developing asynchronous online courses: Key instructional strategies in a social metacognitive constructivist learning trajectory. *International Journal of E-Learning & Distance Education*, 27. http://www.jofde.ca/index.php/jde/article/view/831/1473
- Romizowski, A. & Mason R. (2004). Computer-mediated communication in D.H. Jonasses (Ed), *Handbook of Research for educational communication and technology* (pp. 397-431). Lawrence Erlbaum.
- Roper, A.R. (2007). How students develop online learning skills. *Educause Quarterly*, 30, 62-64.
- Smith P.J., Murphy K.L. & Mahoney S.E. (2003). Towards identifying factors underlying readiness for online learning: An exploratory study. *Distance Education*, 24, 57-67. https://doi.org/10.1080/01587910303043
- Wise, A.F., Speer, J., Marbouti, F. & Hsiao, Y. (2013). Broadening the notion of participation in online discussions: Examining patterns in learner's online listening behaviors. *Institutional Science*, 41,323-343.