

DISTANCE LEARNING BETWEEN ADVANTAGES AND DISADVANTAGES IN LIGHT OF CORONA CRISIS -A REFERENCE TO THE CHINESE EXPERIENCE-

التعليم عن بعد بين المزايا والمساوي في ظل أزمة كورونا
-إشارة إلى التجربة الصينية-

Dr. Fadila Boutora^{1*}, PhD Student. Ala Eddine Louafi²

¹ University of Tebessa, Algeria, fadila.boutora@univ-tebessa.dz,

² University of Tebessa, Algeria, alouafi@univ-tebessa.dz,

Entrepreneurship laboratory and administrative organizations.

Date of receipt:10/10/2020 Date of revision: 10/03/2021 Date of acceptance: 2022-05-26

Abstract

ملخص

This study aims to identify the most important advantages and disadvantages of the distance learning mechanism in the light of the Corona crisis, as well as the most important activities of the Chinese experience in distance education, and concluded that in the context of the response to the Corona pandemic, the People's Republic of China has launched several tele-learning initiatives.

In the end, the study recommended the need to provide a good technological infrastructure for educational institutions in Algeria in order to facilitate communication and telecommunications, as well as the success of the educational process.

Keywords: Distance Education, Corona Pandemic, Chinese Experience.

تهدف الدراسة إلى معرفة أهم مزايا وعيوب آلية التعلم عن بعد في ضوء أزمة كورونا، ومعرفة أهم الأنشطة التي تعتمدها التجربة الصينية، وخلصت الدراسة إلى أنه في سياق التصدي لجائحة كورونا، أطلقت جمهورية الصين الشعبية العديد من المبادرات المتعلقة بالتعلم عن بعد. أوصت الدراسة بضرورة توفير بنية تحتية تكنولوجية جيدة للمؤسسات التعليمية في الجزائر من أجل تسهيل عملية الاتصال عن بعد.
الكلمات المفتاحية: التعليم عن بعد، جائحة كورونا، التجربة الصينية.

* Corresponding Author Fadila Boutora, Email: fadila.boutora@univ-tebessa.dz

1- INTRODUCTION

The world experienced during the 21st century a pandemic that is the first in its history, where it forced the world to a series of real and expected changes that included various economic and political levels, especially the educational sector, where the pandemic prompted universities and schools to close their doors and reduce the chances of spreading, and forced those in this field to invent modern methods by resorting to an educational system based primarily on information technology and communication or so-called distance education.

- **The problem:** From the above, the problematic features of this study are highlighted as follows:

What is The importance of distance education in the context of the Corona pandemic?

- **Sub-questions:** From the previous problem, several sub-questions can be asked:

- What is distance education, and what are its characteristics?
- What are the most important risks of education under the Corona pandemic?
- What are china's most important initiatives in responding to the Corona pandemic?

- **The importance of the study:** The importance of the study stems from the particular importance of the concept of distance education and its critical importance in addressing the Corona pandemic, by focusing on china's initiatives to address the pandemic.

- **The objectives of the study:** The core objectives of this study can be summarized as follows:

- Learn about the concept of distance learning;
- Study of China's most important initiatives in response to the Corona pandemic.

- **Study Methodology:** In order to study this paper, the case study methodology was adopted to clarify the concept of distance learning and its most important elements, highlighting the most important initiatives related to distance learning in the context of the response to the Corona pandemic.

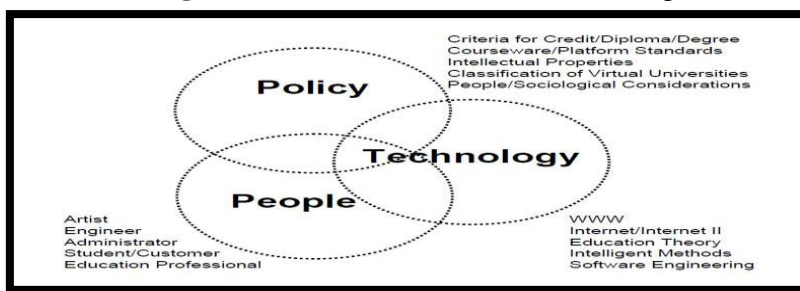
2- Distance Education Under The Corona Pandemic:

2-1- The Concept of Distance Learning: Distance education is a planned and systematic activity which comprises the choice, didactic preparation and presentation of teaching materials as well as the supervision and support of student learning and which is achieved by bridging the physical distance between student and teacher by means of at least one appropriate technical medium (Both.H, 2006, p. 03), The term distance education also expresses that " Distance education implies that the majority of educational communication between the teacher and student(s) occurs non-contiguously, It must involve two-way communication between the teacher and student(s) for the purpose of facilitating and supporting the educational process. It uses technology to mediate the necessary two-way communication (Aras, 2019, p. 260).

Therefore, we conclude that education is only a form of education where it relies on ICT in order to reduce the temporal and spatial gap between teachers and students, especially in times of crisis, such as the Corona pandemic, which is sweeping the world today.

2-2- Elements of distance learning: The most important elements of distance education can be summarized through the Figure 01.

Figure 01. Elements of distance learning



Source: (Won & K. Shih, 2003, p. 37)

Through Figure 1, we note that the process of distance learning consists of three basic elements (technology, policies, people) integrated and coordinated in each other achieve symbiotic combination that works to make the process of communication between learners and students a success.

2-3- Advantages of distance learning: The most important advantages of distance learning are: (Manijeh, 2019, pp. 83-84)

2-3-1- Study from Anywhere, Anytime: The best thing about the distance education is you could learn it from anywhere and at any time. It does not matter in part of the country you are living you can join the course and start learning. Even if your course is offered by an international school you could easily get access to course material if you are a citizen of a different country, Get all the knowledge and training anywhere you reside on the planet.

2-3-2- Saving Significant Amount of Money: According to Bijeesh (2017), for any given program, the fee of a distance education degree (online or otherwise) may be much more affordable than the fee of a regular on-campus degree. Students who are looking for economically viable options can go for a distance learning program. You don't have to live in the same city or the same country to attend the learning institution of your choice. You can study wherever you have access to a computer and Internet connection, Moreover, the course offered at distance learning centers are cheaper than the courses provided at traditional education centers.

2-3-3- No Commuting: Nagrale (2013) stated that if you are opting for a distance education, then you do not have to commute in crowded buses or local trains. You need a computer with an internet connection in your home. Entire college would be in your bedroom and you do not have to go out, Commuting is the most difficult part because you waste a lot of time, money, and more importantly the energy. No one likes commuting for long hours.

2-3-4- Flexibility to Choose: Learners will have to follow a set schedule of learning as per the curriculum of the school if they are following traditional ways of learning. But different types of distance learning allow learners to set their learning schedule as per their convenience without following a regular schedule of learning. Even if they are out of touch form learning process, distance learning program offers them flexibility to choose their course of learning.

2-3-5- Saving Time: Bijeesh (2017) argued that there's no time wasted in going to and from college, no time wasted waiting for a bus or train, In a distance learning program, your classroom is right in your bedroom - the study material on your desk or the e-material on your computer. Students

who don't have enough time on their hands can turn to distance education as an option and pursue it from the comfort of their homes.

2-3-6- Earn While You Learn: Those who want to improve their resume by getting higher education and without breaking their existing job then distance learning can be the best option for them, Learners can go on earning their livelihood along with improving their qualification as distance learning will accommodate both learning as well as earning.

From the above we note that the mechanism of distance education has many advantages, including the elimination of time and space workers between teachers and students and saving costs, as well as the advantage of mobility, saving effort and time, and flexibility of choice.

2-4- The disadvantages of distance learning: The most important disadvantages of distance learning are the following points: (Gabriela, 2009, p. 31)

2-4-1- Isolation: Learners in distance education courses are separated from the teacher and sometimes feel uncomfortable because there is no visual interaction with other participants. Learners sometimes feel lack of support and reassurance in moments when the learning content is more difficult and they have problems with it.

2-4-2- Loss of motivation and self-discipline: Motivation is a basic agent in distance education, Loss of motivation will bring negative results. Learners should be strongly motivated in order to finish their education, Self-discipline is linked to motivation. In most of cases the teacher controls a final due date for individual tasks and projects, but learners are responsible for its implementation. Loss of motivation and self-discipline can be noted in certain cases.

2-4-3- Short period of courses: Distance education courses are shorter than traditional ones, This requires assimilation of the learning content in a shorter period of time and could be difficult for some learners.

2-4-4- High costs: At the beginning of the development of distance education course expenses are considerable – not only financial, but also time. Teachers spend a lot of time to prepare and structure the whole course – time for examination of the audience, review of existing learning materials and already created courses, time for preparation of learning instructions.

We note what has already been done by the distance learning process has many advantages, but it also contains several disadvantages, the most important of which are isolation, loss of motivation and self-discipline, as well as high costs and others, which have a negative impact on the learning process on the one hand, and students on the other.

2-5- Impact Of Coronavirus Pandemic On Education: The coronavirus pandemic has affected educational systems worldwide, leading to the near-total closures of schools, universities and colleges. At the middle April 2020, approximately 1.723 billion learners have been affected due to school closures in response to the pandemic. According to UNESCO monitoring, 191 countries have implemented nationwide closures and 5 have implemented local closures, impacting about 98.4 percent of the world's student population, School closures impact not only students, teachers, and families, but have far-reaching economic and societal consequence School closures in response to COVID-19 have shed light on various social and economic issues, including student debt digital learning, food insecurity, and homelessness, as well as access to childcare, health care, housing, internet, and disability services, The impact was more severe for disadvantaged children and their families, causing interrupted learning, compromised nutrition, childcare problems, and consequent economic cost to families who could not work, In response to school closures, Universities recommended the use of distance learning programs and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. (Nasir , 2019, p. 01)

3- The most important activities of the Chinese experience in distance education under the Corona pandemic: It can be summarized below: (R.H, D.J, A, J.F, H.H, & and others, 2020, pp. 29-38)

3-1- Self-directed learning encouraged by Guangzhou Nansha No. 1 Middle School: "Self-directed learning" is a prerequisite for students to form good cognitive habits and a key factor of academic success. As early as January 27, 2020, the Chinese Ministry of Education issued a notice on the postponement of the spring semester in 2020 due to the spread of the epidemic, urging schools to use online platforms.

Yang, a senior 3 student at Guangzhou Nansha no.1 Middle School, said it was "important for her to keep up with the pace of study". Every day Yang gets up at 6 am, opens the learning application from 6:20 to 6:50 to practice oral English, read out loud, retell stories, play different roles highlighted in the application, and conduct special exercises by simulating tests scenes, From 6:50 to 7:20, she recites the Chinese ancient poems and famous quotes she knows. After breakfast, Yang sat at her desk at 8:00, waiting for the school's live lecture to start. For Yang, online classes not only helped her keep up with the pace of the college entrance examination, but also provided her an opportunity to practice her "self-discipline" Learning.

Figure 02. High school students study independently during epidemic prevention



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 29)

Compared with traditional learning methods in schools and classrooms, learning methods in the era of “Internet+” are pluralistic and diverse. They can be either individual learning, or group and community learning; either based on learning tools or resources, or via terminal devices; either self-regulated learning for a specific subject or skill, or collaborative, interdisciplinary learning based on a specific project or problem, During the period of preventing the epidemic, according to the scale of participants and their cognitive levels during the learning process, schools at all levels and kinds can guide students to choose appropriate learning methods on the basis of specific and applicable educational scenarios.

3-2- “Rain-Classroom” to deliver synchronous and asynchronous classes: Rain-classroom is a smart teaching tool jointly developed by Xuetang Online and the office of online education of Tsinghua university, with the purpose of comprehensively improving the classroom teaching experience, enhancing the interaction between teachers and students, and

making online teaching more convenient. Rain-classroom integrates the complex information technology means into PowerPoint and WeChat, establishes the communication bridge between the extracurricular preview and the classroom teaching, and makes the classroom interaction never offline, With the help of Rain-classroom, teachers can publish the pre-class preview courseware with MOOC videos, exercises and voice audios to students' mobile phones, so that the teachers can easily diagnose the problems of students' learning and give feedback in time. Rain-classroom also provides classroom live broadcast, during which student can answer real-time questions and interact with teachers through "bullet screen". In addition, Rain-classroom provides teachers and students with complete three-dimensional data support, personalized reports, and automatic task reminders.

On February 17, 2020, Tsinghua University started its online classes on Rain-classroom. In the first week of the new semester, there were 264,000 teachers and students attending Rain-classroom, completing 10,635 online lessons involving 3,923 courses, with a total of 395,000 hours. Among these courses, 152 courses were undertaken by 73 foreign teachers from various schools and departments, and delivered in the United States, the United Kingdom, Japan, Canada, France, Australia, and Germany. This is the first time in the history of higher education in the world that a large-scale, real-time, interactive, long-distance and decentralized online teaching system has been implemented.

In order to make more teachers skilled in using rain classes, the teacher development center of Tsinghua University, together with the Xuetang Online, the academic affairs office and the graduate school, conducted live training on the use of Rain-classroom for teachers in the spring semester of 2020, Yinian Guan, who works in the online teaching and training center of the school, first guided the teachers to experience the basic environment and functions of the Rain-classroom as students, and explained the methods of downloading, installing and using relevant software. The participating teachers conducted real-time interaction with Yinian Guan through "bullet screen" and posts, and got familiar with the teaching environment of the Rain-classroom.

Xinjie Yu, a professor of electrical engineering and who has a rich experience in using Rain-classroom, organized a training about "pre-class, in-class and after-class" arrangement of online teaching. As Yu pointed out, teachers should first change their teaching philosophy before class and "split" their teaching content. The original course should be divided into several 20- 30 minute paragraphs, breaking the big story into small stories, breaking the whole course into paragraphs. In order to achieve the ideal teaching effect, Yu suggested that teachers should take full advantage of the interactive advantage of Rain-classroom to intersperse with rich interaction between the three parts to keep attracting students' attention.

Figure 03. A teacher is interacting with his students on Rain-classroom



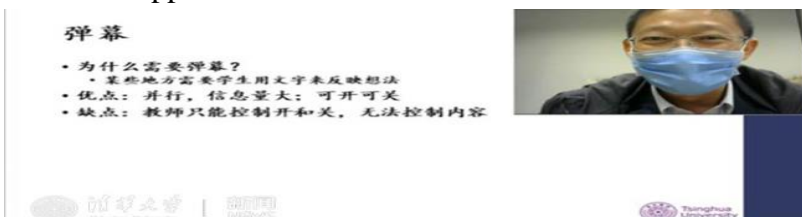
Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 31)

Figure 04. Yinan Guan is conducting a live training on the use of Rain-classroom for teachers



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 31)

Figure 05. Xinjie Yu is conducting a live training on the teaching application of Rain-classroom for teachers



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 31)

2-4- Education enterprise “Squirrel AI”: Using AI teachers to create personalized learning system for students: Squirrel AI is the first AI unicorn company to apply adaptive learning technology in AI in K-12 schools. It has established more than 2,000 learning centers across the country. The Squirrel AI online learning system is different from ordinary live lessons. It not only supports online teaching and learning but also provides AI service to students’ online learning. First, Squirrel AI sets a personalized learning path to locate students' weakness in learning accurately to shorten learning time and improve learning efficiency. Secondly, it can visually display students' learning status, monitor learners’ learning behaviors in time, provide big data learning analysis, and support learners to real-time view their learning reports. Third, squirrel AI provides different functional views for teachers and principals to monitor and manage their live classes.

Figure 06. the characteristics of platform



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 33)

After the outbreak of coronavirus in China, Squirrel AI responded quickly and provided 500 million free online learning courses for primary and secondary school students nationwide. On January 26, 2020, Squirrel AI conducted online trainings for public school teachers, compiled user manuals, organized account registration, and established guiding teams. At present, more than 160 public schools located in Shandong, Hubei, Fujian, and Jiangsu provinces are using squirrel AI for classroom learning, covering the subjects of Chinese, Math, English, Physics, Chemistry. In the course, more than 200,000 students across the country use squirrel AI accounts to study online. It is expected that the demand for squirrel AI student accounts will soon exceed 500,000.

During the epidemic, students and teachers talked about their feelings after using the squirrel AI classroom. Since the outbreak of COVID-19, students who have to take the entrance examination of senior high school or colleges had too many difficulties and pressures. Xiao Zhang, a third grade

middle school, mentioned that he was not good in math, but Squirrel AI helped him improve, since detailed reports on his learning performance and recommended materials are instantly provided. In a face-to-face video interview, Xiao Zhang stated: "I didn't expect to learn like this! In the first class, the assessment system highlighted my learning weaknesses precisely. This kind of learning experience is so helpful and interactive."

Figure 07. Using Squirrel AI system to facilitate student's smart learning

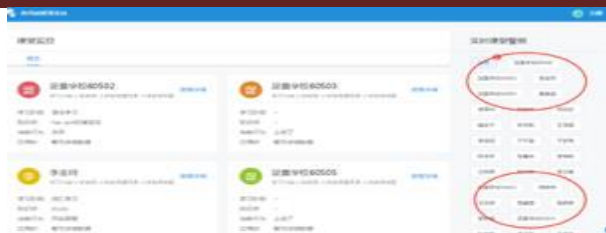


Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 33)

Teacher Wang, a public school teacher, who often uses the squirrel AI system in his class also talked to us about his feelings:

"The squirrel AI system classroom is indeed easier and more effective than regular classrooms! After logging in to the system, I can supervise my course. Although there are many students, I can quickly know the answers of each student through the generated dashboards. After a student finishes the pre-test, the system displays course questions that match his/her ability. After each question is completed, the student can immediately get feedback on each question and the process of solving it. After the class, the system will automatically generate a learning report of each student, and this helps me better monitor my students. "

Figure 08. Using Squirrel AI system to monitor students' learning process



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 34)

2-5- Diversified Supports for Online Teaching and Learning: Effective supports and services are important to ensure the quality of online learning. These services can be for both teachers and learners and based on the collaboration between governments, schools, enterprises and families.

The national cloud classroom (www.eduyun.cn) provides e-textbooks compiled by the education department. These digital e-textbooks are widely used in various areas and cover all levels of middle schools and high schools. The school can also use the authoring tool embedded in the platform to create a flexible curriculum by using the provided resources on the platform as well. Additionally, the platform supports online lecturing and interactive tutoring functions.

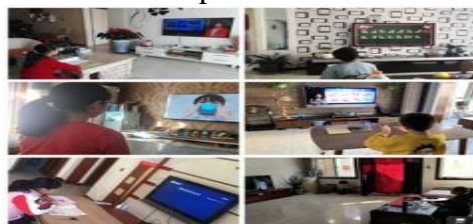
Besides, there might be limitations of the internet access in remote areas, therefore the ministry of education requested China Education Television to broadcast courses and resources through TV channels to meet the needs of students studying at home in these areas. The Ministry of Education also coordinated with both the education departments in Beijing, Shanghai, Sichuan, and Zhejiang provinces and schools affiliated to Tsinghua and Renmin University in China to develop high-quality open learning resources during the emergency.

At the same time, the People's Education Press provided the mobile application "Touching and Reading of PEP", which offers free digital teaching resources. During "Disrupted Classes, Undisrupted Learning," the government required education departments and schools at all levels to cooperate with each other. The Ministry of Education also encouraged a variety of social organizations to proactively offer more diverse learning resources with high quality for the public.

Figure 09. Teacher assigns and checks homework through the network

Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 35)

Handan Education Bureau has made efforts to support "Disrupted Classes, Undisrupted Learning" from two aspects. One is to help teachers to improve their online teaching skills. The other one is to provide various resources to support, guide, and encourage students to carry out independent learning activities at home. Handan city further developed the platform "Classroom on Air" at the city-level. This platform is supplemented by the national primary and secondary school network cloud platform, China Education Television Station, and various excellent education resources platforms. It supports students to study independently at home. In some villages with limited internet connection, students can watch educational videos offline via the "Classroom on Air" platform and carry out asynchronous learning by using national and local resources. These resources help maintain the quality of learning, but also help develop the skills of self-regulated learning. To meet the needs of different students in both synchronous and asynchronous learning, filmed presentations were produced by well-known teachers and then broadcasted via "Classroom on Air". To enhance the quality of teaching, Handan Education Bureau also recruited teachers in each subject from all schools in the city to work together on course production for everyone.

Figure 10. Students study at home and some of them are accompanied by parents

Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 35)

Figure 11. Parents are supervising their children's independent study at home



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 36)

Figure 12. high school student in a village, listens to lectures online on her mobile phone at home



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 36)

Figure 13. Online homework correction, real-time guidance of students



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 36)

Figure 14. A teacher is recording a lesson for "Classroom on Air"



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 36)

2-6- Governments & enterprises coordination: Technical services support improved: To support the “Disrupted Classes, Undisrupted Learning” initiative by the Ministry of Education during the COVID-19 outbreak in China, NetDragon, a global leader in building internet communities, announced that its online education platform “One Stop

Learning” will provide a new free service plan for live-streaming of courses to over 10 million users.

“One Stop Learning” platform not only updates the latest information of COVID-19 and measures for public health, but also provides services including teachers’ class preparation and teaching, online assignments and exams, live-communication between schools and parents, academic research, and operational management that allow users to effectively accomplish their daily work.

Figure 15. Online Courses on “One Stop Learning” platform



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 38)

On February 01, the Fuzhou Bureau of Education further published the “Guidelines on proper management of education for primary, secondary, and vocational schools amidst postponement of school semesters”. The guidelines state that “One Stop Learning” is chosen as the official platform in support of Fuzhou’s “Continuous Learning amid School Suspension” mandate. The platform will then facilitate online learning of over one million teachers and students as well as several million parents.

Figure 16. A pupil is studying on “One Stop Learning” platform



Source: (R.H, D.J, A, J.F, H.H, & and others, 2020, p. 38)

Meanwhile, “One Stop Learning” platform has also been aiding the Department of Education of Hubei Province to support the national initiative entitled “Disrupted classes, Undisrupted learning”. In collaboration with Hubei Province, NetDragon established the “Hubei Education Cloud Platform”. After the construction and testing of the platform were completed (in three days), live trials were conducted on January 30, in three cities, including Macheng, Xiantao and Yangxin, and over 10 thousands live courses were carried out since then. The company has cooperated so far with Hubei, Fujian, Guangdong, Hunan, Shandong

and other provinces to provide online educational services including live teaching and online courses.

4- CONCLUSION

It is certain that the corona crisis that faced the education sector due to the outbreak of the Corona virus pushed distance education to the forefront, except for an urgent and irreplaceable option for the continuation of the learning process, as well as the continuation of the building of generations where educational institutions will face great challenges to face this transformation but with planning.

Bibliography List

1- Books:

- R.H, H., D.J, L., A, T., J.F, Y., H.H, W., & and others. (2020). *Handbook on Facilitating Flexible Learning During Educational Disruption: The Chinese Experience in Maintaining Undisrupted Learning in COVID-19 Outbreak*. Beijing: Smart Learning Institute of Beijing Normal University.
- Aras, B. (2019). *Handbook of Research on Learning in the Age of Transhumanism, From Distance Education To Open Theories*. Hershey: In S. Sisman-Ugur, & G. Kurubacak (EDS).

2- Journal article:

- Both.H, C. (2006). *History, Theory, and Quality Indicators of Distance Education*.
- Gabriela, K. (2009). *Review of Distance Education*. *Trakia Journal of Sciences*.
- Manijeh, S. (2019). *A Shift from Classroom to Distance Learning: Advantages and Limitations*. *International Journal of Research in English Education (IJREE)*.
- Nasir , M. (2019). *IMPACT OF THE 2019–20 CORONAVIRUS PANDEMIC ON EDUCATION*. *International Journal of Health Preferences Research*.
- Won, K., & K. Shih, T. (2003). *Distance Education: The Status and Challenges*. *Journal of Object Technology*.