



WHAT WORKS: EDUC.AR'S STRATEGY FOR A NATION CONNECTED AND LEARNING

KEY TOPICS: rural and urban connectivity; teacher training; content and media tool development; public-private partnership.

THE TAKE-AWAY: An ambitious national attempt to harness IT for education and national development. The comprehensive approach aims to link up all of Argentina's 40,000 schools, providing connectivity, human capacity, and relevant digital content. Educ.ar has faced significant challenges in the wake of changes in Argentina's political and economic landscape over the past year—but with the interesting result that many in Argentina now view the project as more important than ever. It is the prototype for similar programs in Chile and other countries.

**A DIGITAL DIVIDEND STUDY
BY THE WORLD RESOURCES INSTITUTE**

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**MADE POSSIBLE WITH SUPPORT FROM
MICROSOFT AND THE MARKLE FOUNDATION**

EXECUTIVE SUMMARY

The Argentine government and some dedicated entrepreneurs have set out to transform the national education system through the Educ.ar project. The goal is to provide a nationally and internationally competitive education to all Argentine students by connecting every Argentine school to the Internet, training every teacher in its use, and providing an entire national curriculum online. Educ.ar, structured as a novel public-private collaboration, is already being replicated in Chile and other Latin American countries.

BUSINESS MODEL

Educ.ar is based on a three pillar strategy:

- **Connectivity:** The connectivity plan provides computer equipment and online access for 40,000 Argentine schools by 2004.
- **Capacity:** The capacity-building program will train 550,000 school teachers in the use and creation of digital content and media-tools for the classroom.
- **Content:** The Educ.ar portal (www.educ.ar) provides quality educational content for teachers and students and filtered access to the Internet via a digital network.

The connectivity plan and the capacity-building program are direct activities of the Ministry of Education, financed through the government and multilateral loans to the government. The Educ.ar portal is an entrepreneurial enterprise based in Buenos Aires which plans to generate revenues through advertising, e-commerce, and corporate sponsorships; for the time being, Educ.ar is wholly-owned by the government, but operates as a private enterprise. The benefits of the structure are clear, with the government assuming the costs of connectivity and training, paving the way for Educ.ar to provide high quality services to the education market. The challenges are clear as well: connecting and training an entire national school system is an audacious pursuit. On Educ.ar's part, generating revenue for self-sufficiency is no easy task, especially given the collapse of many online advertising revenue models.

INFRASTRUCTURE

Argentina's telecommunications infrastructure is concentrated in and around Buenos Aires. Even so, Internet access is limited and expensive even in urban Argentina, in large part because of high telecommunications charges. Internet access is not available at all in much of the country's rural areas and would be prohibitive over the existing phone network because of long distance charges. Overcoming these difficulties to provide affordable access to 40,000 schools is just the beginning of Educ.ar's infrastructure challenge. Some 1,700 schools do not even have electricity, and many lack adequate resources of all kinds. More broadly, Argentina's 37 million population is scattered across a landscape one-third the size of the United States. Installation and maintenance of equipment for rural schools will be costly and difficult. With two-thirds of the country's population now unable to access the Internet, online training programs and online content distribution will have to wait on infrastructure improvements.

HUMAN CAPACITY

Key to the success of Educ.ar is a talented management team, including expatriate Argentines attracted back from Europe to participate. Educ.ar is also building strategic alliances with technology companies and benefiting from



pro-bono help from corporations and educational institutes. Much of the technical work will be outsourced to minimize in-house staff and access the most capable talent.

At the same time, building human capital in the schools is a critical challenge for Educ.ar. Most school teachers in Argentina are neither familiar with the Internet nor trained in the use of multi-media technologies for the classroom. Teacher training on the scale that Educ.ar contemplates—upgrading an entire nation of teachers within a few years—is a daunting task. The online training models that Educ.ar counts on cannot begin to function until infrastructure problems are solved.

POLICY

There is inherent risk in the long-term health of any government project or state-owned enterprise. Changing economic circumstances can prompt budget cuts, and a shift in control of the government might also result in different policy priorities. To minimize this risk, the enterprise partner to the project, Educ.ar, has negotiated external funding packages that extend beyond the time period of government budgets and require matching Ministry funds. Its Board of Directors spans the political spectrum, with representation from all of the most-probable candidates for president. There is precedent in Argentina for successful and long-enduring state-owned companies. And Educ.ar is building support within provinces and constituencies to guarantee its long-term health.

ENTERPRISE

Educ.ar, the private sector partner in the Educ.ar project, was launched in 2000 by Martín Varsavsky, an expatriate Argentine and successful e-commerce entrepreneur in Europe, with a personal donation of US\$11,282,855 (one dollar for each K-12 student in Argentina).

Educ.ar will not only provide educational content to Educ.ar but will provide Internet services to Educ.ar, in effect operating the online school network. It plans to tap the e-commerce and advertising revenue potential of a captive market of some 11 million students and teachers, as well as to expand these and its ISP services beyond the student and teacher population. Although wholly owned by the government, Educ.ar may also raise capital through a public offering of its shares at some future time.

Educ.ar also hopes to benefit from partnering in content creation, hosting, and connectivity solutions with a growing network of “Educ.ars” being created throughout Latin America by the Martín Varsavsky Foundation. The Chilean version, the state-owned and run Enlaces program, is already up and running. The network provides clear opportunities for economies of scale, from buyers group and coalition negotiations to joint content acquisition and sharing.

KEY LESSONS

It is too early to know whether Educ.ar can accomplish its ambitious goals. What is clear is that without the radical shift to online distribution channels for training and educational content delivery that Educ.ar is building, Argentina’s schools are likely to continue to decline. Educ.ar’s founders go further and assert that Educ.ar is about more than education—it is an attempt to address basic problems of inequity that weaken Argentine society by enabling equal access and equal opportunity. At the very least, Educ.ar is an unusual attempt to build a public-private partnership, financed in part with an e-commerce business model, to catalyze multi-sectoral, non-partisan support of ongoing educational reform.



A NATION CONNECTED AND LEARNING: ARGENTINA'S EDUC.AR

CONTEXT

"We must begin to address the fundamental breaches and imbalances in our education system, or it will become unsalvageable. This is what Educ.ar does. Each part of this plan is an essential investment. It is the only way that we can make our education system internationally competitive – and nationally competitive, bringing resources to communities that don't currently have access..... And we hope not to repeat some mistakes of the past, like bringing computers to schools where there is no electricity for example. We don't think technology is a panacea, but it is an integral part of the solution."

Patricia Angel, Director, Infrastructure and Connectivity Program, Ministry of Education

Argentina's education system is under stress. The majority of the country's schools lack access to such basics as teaching materials and updated textbooks; some 3,000 schools have only one teacher to provide instruction for all 10 mandatory grade-levels. While Argentina still boasts nearly universal literacy, the quality of the education offered in most of the nation's 31,660 public schools is in a state of serious decline. Exacerbating the situation, the budget for the Ministry of Education has recently been slashed by 30% in an austerity program meant to save the country from national debt default. In a country with one of the highest per capita incomes (\$7844) in the developing world, these conditions are alarming.

With these challenges in mind, the current Argentine government has launched an ambitious program to transform the education system, with the goal of providing a nationally- and internationally-competitive education for all Argentine students. The Educ.ar project relies on a revolutionary approach and a novel public-private partnership to bridge the educational and digital divides.

ENTERPRISE PROFILE

The Educ.ar project was initiated in 1999 when the son of current president Fernando de la Rúa approached the ex-patriot entrepreneur Martín Varsavsky (founder of Jazztel and other companies) to solicit his help in building business solutions for the Argentine education market. Varsavsky identified problems in content, access, delivery, and management. The idea that emerged was to leverage the Internet as a cheap and cost-effective distribution system for continued access to educational content, tools, and training, and to create a private enterprise to develop and deliver educational content and manage an online system. The new enterprise, Educ.ar S.A., was launched in September, 2000, with initial funding in the form of a donation from Varsavsky.

Educ.ar, named for the Spanish verb *educar* or "to educate," is based on a three-pillar strategy that intends to provide connectivity and computer equipment, teacher training, and high quality educational content to raise the standard of education for all Argentine students. The Ministry of Education—the public sector partner in Educ.ar—has responsibility for connectivity and capacity building. Its connectivity plan calls for providing Internet access and the necessary computer equipment to 40,000 Argentine schools by 2004. The capacity-building program will train more than 550,000 teachers in the use and creation of digital content and media tools for the classroom. Educ.ar S.A.—the enterprise partner—will operate an Internet portal (www.educ.ar) that provides educational content for teachers and students in a free and open format and will also operate the online digital network that connects schools to the Internet; in effect, Educ.ar will be the ISP for the country's 40,000 schools.

Educ.ar S.A. is a wholly-owned state enterprise with all shares belonging to the Ministry of Education. Rights to sell those shares or to privatize the company are held at the Board level. The company functions as any other, with a few exceptions. Most notably, it is subject to certain government procedures that hinder operational speed and agility, including government contracting and bidding processes.



The Board is a seven-seat, unlimited term structure that is to be chaired by the Minister of Education, a position that changes with each administration. The current Board is strategically comprised of the most reputable politicians from all of the major parties and provinces, two of whom are potential candidates for presidency. The Board's most important role may be to ensure that Educ.ar is made a priority in future administrations.

There are benefits and liabilities to Educ.ar S.A.'s state-owned structure. On the liability side, Educ.ar is clearly identified with the current administration, which could easily result in political opposition. On the other hand, its association with the Office of the President affords Educ.ar a high profile without investment in PR. As a result, Educ.ar has generated significant interest among clients, the public, and potential corporate supporters.

Additionally, as a state-owned enterprise, the company has unhindered access to all of the content and human resources of the Ministry of Education and can influence the management of other project components without provoking conflict of interest issues the way a private company would.

MARKET

Educ.ar's target market is the Argentine student and teacher population of almost 12 million. It is comprised of over 550,000 teachers, 100,000 college professors, 1,100,000 college students, more than 10,000,000 school children, and 390,000 continuing education students. Constituting nearly one-third of the country's population, this is a large and potentially very valuable market to which Educ.ar will have unique and in many cases exclusive access, given the high cost of alternative access to the Internet. (One way of assessing the potential value of this market is to note that AOL's U.S. Internet access market is now about 30 million.) When parents of students are factored in as an additional potential audience, Educ.ar is targeting 50% of the Argentine population. In commercial terms, students make up the fastest growing population segment and have a collective spending power estimated at \$30 billion, primarily concentrated among university students.

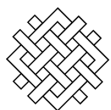
At present, the school market is characterized by low computer and Internet penetration. There are only 123,000 PCs installed in Argentine schools, including those used for administrative purposes, and about 120,000 school-based Internet users. Internet penetration in Argentine universities is 100% via the University Connectivity Network.

According to the Ministry of Education, well over 50% of the nation's school teachers have computers in their home, and half of those are connected to the Internet, providing a potential way around the infrastructure bottleneck for teacher training.

While professors, students, and parents are the end-consumers and focus of the product strategy, Educ.ar's short-term success is dependent on marketing to its upper-tier clients, who are, in essence, its distribution channels as well. Thus Educ.ar is targeting its marketing at the provincial ministry level for the grade school market and to universities and other higher education institutions for the university market. There are 23 provinces, some 90 universities, and 1,700 learning institutes.¹ To create a loyal client base of the provinces, Educ.ar has a point-of-contact in each of the provincial ministries who champions the program; currently over half of provinces have signed on as supporters of the program. All public and private universities are participating in the program.

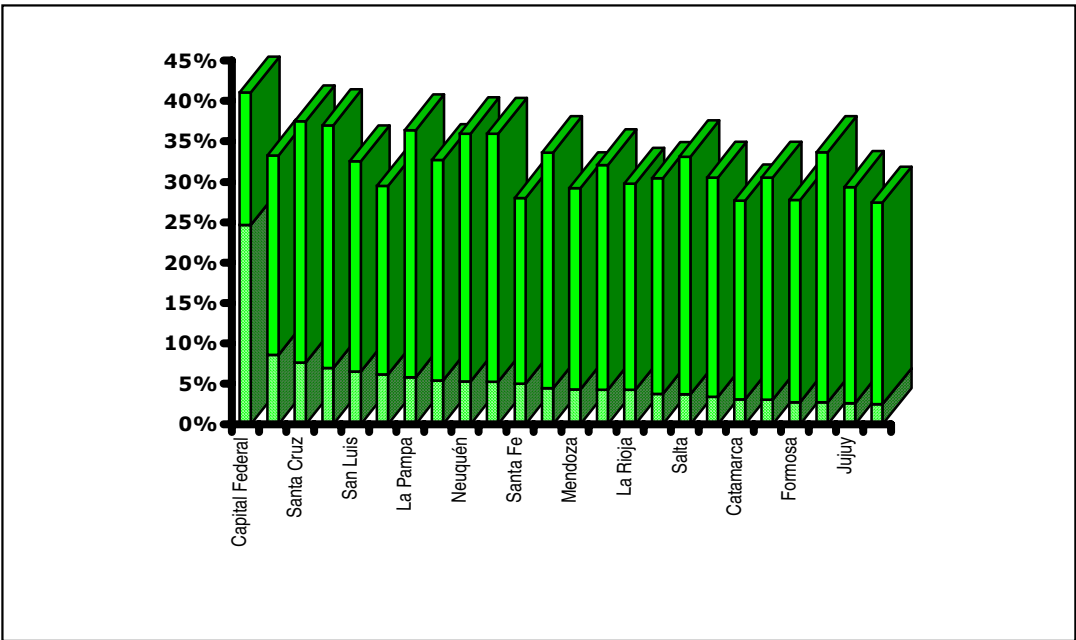
INFRASTRUCTURE

Educ.ar's connectivity plan aims to bridge the digital divide and democratize education by providing computer equipment and Internet connectivity to all of Argentina's schools by 2004. The plan's deliverables include 26,000 equipment nodes, each consisting of server, printer, scanner, and an average of 12 computers per school; 39,000 points of wireless access; and a data center capable of supporting 8 million users.



The roll-out is timed to reach 500 schools by September 2001, 2,500 more by January 2002, an additional 18,000 over the course of 2002, and a final 16,000 in 2003. Reaching these goals would make Argentina a world leader in student connectivity—and unique among developing countries. Educ.ar’s projected impact on connectivity can be seen in the Figure 1, based on data provided by the Ministry of Education.

Figure 1. Internet Connectivity by Province, Pre- and Post-Educ.ar (% of General Population)



Educ.ar’s connectivity unit is designed as a purveyor and distributor of Internet access and equipment; it will have a management role, serving to contract and organize these services and hold relevant licenses. All connectivity services, as well as installation and maintenance of hardware and software, will be outsourced to existing companies. Educ.ar will also outsource a “data center” to manage Internet access, intranet functions, connection to satellite ground stations, proxy servers, help desk, and support system. The connectivity unit will award contracts for the installation of connectivity infrastructure and technologies through public bidding—because of the potentially significant profits involved, the process is expected to be very competitive. The project also relies on significant in-kind support from the private sector, including \$25 million in wiring and maintenance support from Cisco’s Networking Academy.

As a government program, the connectivity unit has no initial revenue streams. Eventually the government will “charge” provinces and schools for connectivity on a per-node basis, with fees to be deducted directly from school budgets by the Ministry of Education.

The connectivity plan is not technology-specific, but rather will utilize the most cost-effective technology option available within each region. Because DSL and fiber optics are not available in most places—currently, there are large swathes of the country whose only option for Internet connectivity is long-distance dial-up service—VSAT technology will be most commonly used. VSAT’s competitive advantages include high quality, easy installation, wide coverage, multi-casting capability² and reasonable cost, as well as low incremental cost for expansion.



Already-installed PCs and other equipment will be utilized wherever possible. For schools with no pre-existing equipment, Educ.ar has designed a branded “thin-client” setup that will minimize purchase and maintenance costs and, accordingly, maximize the number of units that can affordably be placed in each school.³

Once all of Argentina’s schools are wired, the cost of connecting additional, non-academic clients is minimal. While currently outside the scope of Educ.ar’s business plan, non-academic, purely commercial operations are widely acknowledged to be a plausible option for the future. This would, of course, pit Educ.ar against private sector interests in competition for what could be a very lucrative market. The initiative thus runs the risk that these heavyweights, looking to keep a future competitor out of the market, will work to forestall its progress indefinitely.

The connectivity plan is projected to cost \$288 million over its first three years. The project relies on \$237 million in funds from the Ministry of Education budget and a matching loan from the Inter-American Development Bank. The first tranche of \$90 million is to be invested as of August 2001. Assuming an additional \$50 million in in-kind donations from partners, there remains a \$47 million gap for year 1.

There is also some doubt as to the amount that will actually be invested in the initial round, as all national budgets are being cut in response to the current fiscal crisis; the IDB contribution, as a matching loan, will depend on the national funds committed.

The budget is based on the assumption that up-front costs will be \$3.5 million for initial VSAT infrastructure and licensing fees. The terms of the license permit that the technology may be utilized to service any customer in Argentina (and potentially Uruguay, Paraguay, and southern Brazil) at no additional cost. Incremental costs are based on estimates of connecting 26,000 schools (cost of set-up with server, 12 thin clients and installation) at approximately \$12,000 per unit.

Without government funding to cover such costs, the market for Internet connectivity, equipment, and services in Argentina’s schools is marginal. There is no evidence of demand and significant doubts that provinces would be reliable customers. Private companies thus face a barrier to entry as fundamental as lack of market. The government can, however, create its own market by providing it with the resources needed to contract its product, and that is part of the Educ.ar strategy.

TEACHER TRAINING

Educ.ar aims to train teachers in the use of the Internet, Internet content, and multi-media teaching tools as a precursor to effective use of its resources and infrastructure. The training strategy is multi-fold and phased, based on capacity-building workshops, TV-based distance learning programs sponsored by the state-owned television stations, and virtual campuses for advanced trainees through the Educ.ar portal.

The business goal is to train 571,895 schoolteachers before 2004, with the continuing training until 2006 (ideally, training is to be phased before the placement of computers and Internet access into the schools). An initial 70,000 will be trained in 2001, with distance tutorials for an additional 90,000 beginning during the last quarter of the year. Advanced mentoring for a group of 10,800 teachers will begin in 2002.

Capacity-building workshops are 40-hour training sessions, comprising 12 hours of in-person training at one of 200 centers nationwide and 28 hours of virtual training through the Educ.ar portal. Like the connectivity plan, the training plan relies on provincial ministries for implementation of the courses as well as for the infrastructure and logistics the training centers entail. Course content has been developed by Educ.ar and the Ministry of



Education, with support from Microsoft and other strategic partners. The Ministry has assumed all costs of the training program, which are estimated at \$50 per teacher without transportation costs.

Thirty centers have been established so far, in areas as far-flung as the remote area of Jujuy in the northwest, with 5,000 teachers in pilot training. Educ.ar has an agreement with the national television station to transmit training via television, and TV courses for rural communities without access to the Internet as well as for advanced trainees are in development for 2002. Distance courses will also be available via the portal www.educ.ar.

The lion's share of marketing efforts will be assumed by the national and provincial ministries that in turn receive free training for their professors. Local ministries are not obliged to participate. Additional marketing is undertaken through corporate PR channels.

The Ministry of Education will fund the entire program with a five-year funding package negotiated through a 1:1 matching loan from the Inter-American Development Bank. The continued finance for the program is this entirely reliant support from the governing party.

THE EDUC.AR PORTAL

"There is no question here that we are not a commercial portal. We all understand that there are certain segments of our target market (young students) that are simply not profitable, and we must continue to focus on those parts of the market. They are our mission. So we cannot be driven solely by profit, we simply can't. There are strategic decisions that we make, that make sense to our mission, but maybe not to the bottom line. That is not to say that we can't be financially sustainable, but that I cannot envision a business model that can cater to all segments that we target profitably. It's just to say that we have other priorities."

Alfredo Parga, Corporate Development, Educ.ar

The mission of the Educ.ar portal (www.educ.ar) is to improve the mass, reach, and quality of the educational content and tools available to Argentine students and teachers while providing an Internet-based platform for collaborative learning across the country. The underlying rationale is that access to information and training in schools will better enable graduates—and, by extension, Argentina—to compete in the global economy.

The revenue model for Educ.ar S.A. is based on advertising and sponsorship, with a strong reliance on philanthropic capital in the early years. Like many Internet companies born in the dot-com boom, however, Educ.ar faces the challenge of profiting on an advertising model at a time when the model has lost favor with investors and is widely considered generally unsustainable. Educ.ar's advantage is its mission, which affords it the ability to rely on philanthropic funding until sustainable revenue streams can be integrated into the business. Its intended future revenue model will incorporate e-commerce commissions⁴ and portions of ISP charges.

To generate revenue, Educ.ar offers several sponsorship options: 1) advertisements in a targeted section of the portal (for example, a consulting firm might sponsor a page geared towards college students as a recruiting mechanism); 2) "adoption" of a school, a model through which partial funding is received by Educ.ar and partial funding passed on to the government for its connectivity budget; and 3) branding of distinct product lines (for example, CDs).

Educ.ar's 2001 business goals are to:

- generate substantive content hitting benchmarks for progress in basic and university education (for example, complete the digital production of 780 of 1,356 resources for basic education and distribute it through both Internet and alternative channels).



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- completely integrate tool sets (email, instant messaging, chat, and translation functionalities) for higher education including securing and negotiating partnerships.
 - generate revenue equal to the costs of equipment, connection, and annual portal costs of 1,000 schools through corporate donations as first step towards \$2.4 million in advertising sales for a break-even in 2002.

Educ.ar seeks to diversify its advertising and sponsorship revenues and to generate content at the same time by encouraging companies to provide substantive educational content instead of mere ads. An electricity company, for example, might post information about energy efficiency or the functioning of electrical systems. Educ.ar bets that this will attract both philanthropic and corporate support for the site. Advertising banners will be at least one click away from the portal's educational content.

Educ.ar's current product offering includes educational materials for students and teachers organized in specialized content databases; a technology platform offering a set of communications tools (e-mail, instant messaging, message boards, chat rooms) and distance learning infrastructure; and electronic access to third-party book sellers.

Educ.ar's educational content is divided into that for primary and high school and that for higher or continuing education, and includes content both for students and for teachers or professors. Educ.ar's content generation strategy involves identifying and posting the highest quality existing information, and contracting out development where existing materials are not available.

Primary and high school content is organized into a 113-square matrix, encompassing each level and topic of work within the required national curriculum. To date, Educ.ar has populated a substantive and well-organized database of 140 content pieces and 564 pre-screened links; content production will continue at the current rate of 78 resources per month (6 per editor per month, with 13 editors employed). Every two resources cost \$3,930 to develop, including graphic production. The material is diverse, including everything from stretching exercises and training techniques for physical education teachers to original interactive counting games for young children.

Higher and continuing education content is organized by topic and largely based on the digital bibliography and library which Educ.ar continues to expand. The content currently includes a digital library of 500 books and magazines, over 500 pre-screened links with professors' commentaries, catalogs of grant and loan opportunities, student guides to university curricula, and the like.

Educ.ar plans to generate and maintain fresh, high-quality information via a content management strategy based on distributed production. Production "licenses" are awarded to professors and contracted personnel, who then use a limited-access extranet system to upload their content. Quality is assessed before posting both by university partners and by Educ.ar's full-time content management staff. Content is dated, and becomes slated for disposal if not used within a certain number of days of last use. Educ.ar's content management software is non-proprietary, open content, and XML-based; all database functions are outsourced to the data center.

Educ.ar's long-term strategy is to license and personalize materials from all over the world through a network of educational partners. (See Figure 2.) Content is distributed primarily via Internet, and will be entirely so by the year 2004. Until the connectivity plan has progressed substantially, however, alternative distribution methods will be employed, including periodic distribution of Educ.ar content on CDs and diskettes. Primary distribution channels are provincial ministries and partner organizations (which voluntarily incur costs of dissemination of the free product) and newsstands (where the product will be sold).



Figure 2. Content Source and Description

Source	Nature of Content and Terms of Use
Ministry of Education	Free and exclusive access to national curriculum
Publishing houses	Gratis rights to publish works in part; future licensing schemes being explored
Strategic partners (content partners number over 30 and include Contenidos.com, Chicos.net, AOL, and Microsoft)	Gratis access to partner-generated educational and training materials
Certified professors	Gratis access to previously published works; contracts for specific content generation

Educ.ar also provides communications tools like e-mail and instant messaging. If these free services transform into paid services (as has happened with many of the free ISP/ASPs) Educ.ar plans to employ a data management service that will run the communications platforms; these services are intrinsically linked to the ISP.

Educ.ar also provides a platform for the sale of third-party products and services. Marketing, sales, and distribution are handled by vendors, and Educ.ar receives commission. Educ.ar is also planning to launch a book mall, representing the largest collection of books published in Spanish available for sale on the Internet, in 2001.

In its marketing efforts, Educ.ar counts on an internal marketing department, a contracted public relations firm, joint PR through its over 40 alliances, and points of contact within the provincial ministries.

Educ.ar has achieved substantial market penetration in both of its markets. It has secured formal agreements with the majority of provinces through its “champion” in each provincial ministry. There are currently 7,500 school teachers registered at www.educ.ar. It has secured agreements all of Argentina’s universities: 40% actively use the portal, 40% use it regularly, and 20% use it infrequently.

Educ.ar’s unique competitive advantages are based on its positioning and alliances, most importantly with the Ministry of Education. Its partnership with the Ministry of Education provides 1) guaranteed, free customer acquisition, 2) exclusive, free access to quality content that must be generated by the Ministry annually, and 3) access to a base of soft funds, philanthropic and government monies unavailable to private sector companies. As well, Educ.ar S.A.’s character as state-owned enterprise and the respect its management team commands give it leverage within publishing houses and universities, enabling it to obtain for free rights to post material that would otherwise carry significant licensing fees.

Taken together, these advantages create severe barriers to entry to any other portal attempting to penetrate the academic market. If the connectivity plan is successful, therefore, Educ.ar will have a captive audience in the schools. The inherent stickiness of e-mail and messaging functions means that students who use Internet after school will most likely spend time at the site as well. Perhaps the most daunting barrier to entry, however, is not specific to Educ.ar or its particular market at all: it is simply that no company has yet shown positive prospects for profitability for such an education-oriented portal.



CONCLUSIONS

"Technology is a tool, not a goal."

Ariel Castiglioni, COO, Educ.ar S.A.

Educ.ar's primary obstacle—also one of its primary reasons for existence—is inadequate information and communications technology infrastructure that make Internet access effectively impossible for over 24 million Argentines. Just as limiting is the current lack of resources—from teaching materials to textbooks to electricity—in schools, especially in rural Argentina and the human capacity to use modern digital tools.

The long-term health of any government project or state-owned enterprise is always at risk when governments change. The Educ.ar project has done what it can to minimize that risk, by building broad political support for its goals and by negotiating long-term funding packages. At the same time, government backing and direct involvement in the project, as well as its unique public-private partnership, gives Educ.ar unprecedented access to funds, supportive policies, and philanthropic or in-kind donations, as well as the potential for a huge and lucrative captive market.

If the project meets its connectivity goals, it will provide a third of the Argentine population will have access to the Internet by 2004—a percentage that far outstrips levels of connectivity in most countries in Europe. The plan would increase the number of students with access to the Internet nearly 50-fold and put Argentina ahead of all other developing countries in student computer penetration rates. By the same token, the teacher training program, if it succeeds, will create a body of professors and students capable of working effectively in ICT-driven environments. Together, these may well yield powerful social benefits for the country and help to catapult Argentina into a more competitive space in the world economy—a significant pay-off that, to project backers, more than justifies the risks.

Already there is significant progress on content. The entire national curriculum is now available in digital form, both through the Internet and on CD. Educ.ar S.A. provides access to training tools, electronic libraries, and specialized national materials for education via its Web site; most importantly, it creates and funds mechanisms to generate and capture original content and training materials on an ongoing basis.

The Educ.ar project also constitutes a visible and highly saleable opportunity for the 90% of companies that practice corporate philanthropy. This may help to draw significant monies into education initiatives. Education is already the principal recipient of national corporate donations in Argentina. Perhaps Educ.ar can change the face of education.



NOTES

¹ Argentina's education system is decentralized at the provincial level. Resources are divided at the national level, but implementation and direct resource allocation is mandated at the provincial level. Provinces are largely autonomous in which programs they implement. There are clear incentives to work with Educ.ar, however, there is a political risk that provinces would not adopt the Educ.ar programs.

² Multicasting capability allows for simultaneous data transmission from one node to myriad nodes concurrently. In layman's terms, this signifies improved performance.

³ A thin-client setup is essentially a computing system that relies on a server for all hard-drive functions, so that desktop equipment can be inexpensive.

⁴ The business model is similar to the AOL model in that Educ.ar plans to capitalize on the \$30 billion spending power of its audience to generate long-term revenues.



APPENDIX: EDUC.AR PROJECT STRATEGIC PARTNERS

The Educ.ar project counts on the support of well over 30 strategic partners in two fundamental areas: content and technology. Because of its public mission, it can seek partners across sectors and can leverage pro-bono support uncharacteristic of a private sector company. The key partners include:

MINISTRY OF EDUCATION AND EDUC.AR S.A.

The Ministry and Educ.ar S.A. are partners in all components of the project. In the realm of content, Educ.ar enjoys rights to the national curriculum and learning materials developed by the Ministry; in turn, Educ.ar generates Internet and computer training materials for the Ministry. In the realm of funding, the Ministry serves to channel financial contributions to Educ.ar so as to avoid incurrence of tax-on-donation.

PUBLISHING HOUSES

Educ.ar has a full-time executive to negotiate rights for online publication of books and magazines and excerpts thereof.

AOL

Educ.ar and AOL have a non-exclusive agreement to swap content for traffic. Educ.ar provides content to AOL's university sites; AOL in turn funnels traffic to Educ.ar's site and book mall.

MICROSOFT

Microsoft Argentina holds an agreement with Educ.ar to create tools for professors for basic computer programs, Internet usage, and multi-media education. Educ.ar is determining whether to distribute the Windows operating system as part of its connectivity plan.

NATIONAL POSTAL SYSTEM

Educ.ar is negotiating an agreement with the national postal system to provide at-cost delivery of any books ordered through Educ.ar's online bookstore.

CISCO/FUNDACIÓN PROYDESA

The Cisco Networking Academy is an international education and training institution funded by Cisco's corporate foundation and managed in the Southern Cone by Fundación Proydesa. CNA holds an agreement with Educ.ar to allow 3,200 students and 60 professors to design the networks that will be installed as part of the connectivity plan. Cisco professionals will serve as last-stage quality-control agents. These services, worth an estimated \$25 million, will target schools in the capital that plan to use DSL or fiber optic technologies for connectivity.

SUN

Sun Microsystems donates equipment and expertise to the Educ.ar S.A. corporate facility.

