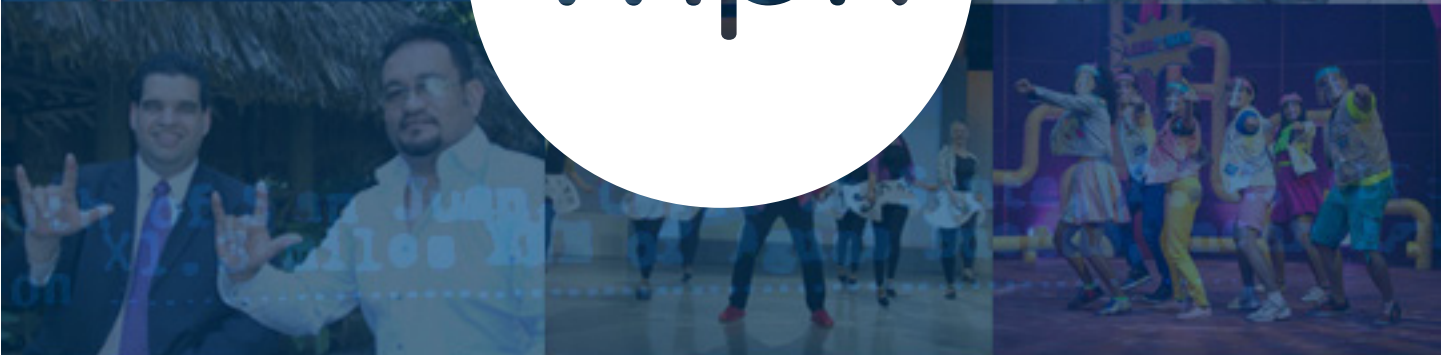


BROADCASTING STATION LICEN



wipr



AN ESSENTIAL TOOL
FOR EDUCATION



Escuelas Metropolitanas, Cartagena

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BROADCASTING STATION LICENSE R

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DEPARTMENT OF EDUCATION OF PUERTO RICO

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Escuelas Metropolitanas, al Departamento de Instrucción (1954).

Primera licencia operacional de WIPR otorgada



Luis A. Rivera “Yoyo Boing” en Club 6, competencia con estudiantes de escuelas superiores e intermedias, donde medían sus conocimientos de español, geografía, historia y otras materias.

Education and television have had a close relationship since the birth of the small screen. When launching broadcasting technology, the first questions were what content to broadcast, who would publish what type of content, and which role each broadcaster plays in society. In response, three operational models for television were established: commercial, state, and public-educational.

Commercial television meets the needs of the market’s demand and supply to broadcast “what the population wants to see.” In contrast, State television stations broadcast government-oriented content for the communities of a specific geographic region in service of their safety and information. However, public television grew with a single mission: to broadcast content made by citizens for the citizens in the service of education, culture, and democracy.

The guiding principle of this differentiation avoids the editorialization of content by the political parties of a State and the disruption of culture, education, and information by commercial media. Under this premise, public television was entrusted with broadcasting everything that “needs to be known” instead of “what you want to see.” These models were validated by the United Nations Educational, Scientific and Cultural Organization (UNESCO); and operate to this day¹.

With the international mandate in mind, the Federal Communications Commission of the United States of America (FCC) reserved two hundred and forty-two (242) licenses for public-educational stations in 1952. In 1957, the Puerto Rico Corporation for Public Broadcasting (WIPR) obtained the third license in the United States within this category and the first of its kind in Latin America. The call letters of WIPR mean *Wonderful Island of Puerto Rico*. Operations under this license have been uninterrupted since 1958 and integrate into the educational programming the informational content proper of a State-operated station under the principle of eradicating disinformation, as permitted and promulgated by the FCC.

When the Public Broadcasting Act of 1969 was approved at the federal level, educational television foundations were consolidated; the Corporation for Public Broadcasting (CPB) and Public Broadcasting System were born with this law. These institutions took on a central role in placing education at the center of the operations of all public stations in the United States, including WIPR. However, for the public-educational stations of the people of Puerto Rico and the Government of the Island, this role was evident from the beginning of Puerto Rican radio and television broadcasting.

¹ UNESCO. Public Radio and Television: Why? How?. 2021. https://unesdoc.unesco.org/ark:/48223/pf0000124058_spa?posInSet=1&query-Id=3984a394-ddea-498f-81b1-f8aec6c38d4d (Accessed on June 10, 2022)

BRIEF HISTORY OF WIPR'S SERVICE TO EDUCATION IN PUERTO RICO



Rafael Delgado Márquez

The engineer Rafael Delgado Márquez, the first Administrator, and the academic Leopoldo Santiago Lavandero, the first WIPR Programmer, created a public station to transmit the different areas of knowledge to the urban and rural populations of the Island. Thanks to figures from the history of education and local and international culture, WIPR was baptized since its inception as “The Great Teacher” and reached the most remote communities of the local topography. Figures such as Gabriela Mistral, Inés María Mendoza, Jack Delano, Camilo Delgado, Mario Pabón, Rosaura Andreu, Madeline Williamsen, Lucy Boscana, Dean Zayas, Luis Antonio Rivera “Yoyo Boing”, Idalia Pérez-Garay and many others, positioned WIPR as a cornerstone for educational development and, consequently, for the economic and social evolution of Puerto Rico.

WIPR programming began with seventy-eight (78) live educational programs. In addition, it integrated the films of the Community Education Division (DIVEDCO) produced between 1949 and 1989. The WIPR Educational Programming Unit was born in 1962 and brought television to classrooms. WIPR and this Unit became affiliated with the United States Public Broadcasting System (PBS) in 1978. WIPR's educational content was strengthened with PBS programming by broadcasting iconic programs on the Island, such as Sesame Street, Evening at Pops, Great Performances, and NOVA.

Hence, since the 70s, WIPR has educated Puerto Rican society through the broadcasted content mandated by federal law. This instructional strategy is tempered to the needs of the communities we serve as broadcasters and to changes in international, national, and state regulations. All these regulations focus more and more strongly on collective education and combating students' academic lag.



Técnicos y empleados de producción frente a unidad móvil. (1957)

WIPR was under the administration of the Department of Public Instruction, today the Department of Education of Puerto Rico (DEPR), from its foundation until 1986. The following year, to guarantee the technological development of our radio and television stations and provide operational and financial capacity, WIPR is transferred by law to the Puerto Rico Telephone Company (PRTC). Under this administration, WIPR and the Department of Instruction created the Osuna Radio and Television Project. This initiative transformed the Juan José Osuna School into the first school specializing in radio and television production in Puerto Rico. The project continues to operate and provide the school with technical and specialized equipment, master classes for students on radio production, television production, and communications in general, supervised practice workshops, and internships.

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Law No. 216 created the Puerto Rico Corporation for Public Broadcasting a year later. This law entrusts the administration of WIPR to a Board of Directors, appointed by the Governor of Puerto Rico, and structures the operational strategy for the stations' sustainability:

“The facilities of the Corporation will not be used free of charge by any person or entity. [...] (WIPR will offer a) preferential and special treatment to the needs and requirements of the Department of Education, the Institute of Puerto Rican Culture, the Office of the Women’s Advocate, the Mental Health and Addiction Services Administration, and the University of Puerto Rico in terms of time, schedule, and price, among others. All in harmony with a healthy programming policy.” (Our emphasis.)

WIPR fulfilled this mandate by implementing PBS’s Ready to Learn (RTL) project that same year in service of DEPR. This project integrated the contents of PBS into the local classrooms through training for teachers, curricular guides, and face-to-face experiences for the school community with the characters of the educational series.

From 2002 to 2009, WIPR launched the Communication Project (PROCOM) to educate communities in the arts and communications. This initiative carried out immersive activities and workshops in multiple communities in Puerto Rico to train and promote citizen participation in audiovisual media and reinforce the use of television as a vehicle for education. In the PROCOM workshops, people of all ages acquired basic knowledge about the arts, radio, and television. As a result, the participants presented projects on the interests and needs of each community for radio, film, and theater presentations, among other media. The PROCOM project was publicly recognized with an Emmy award, the International Award at the Fourteenth (14th) International Telemedicine Competition in Spain, and an honorable mention at the Fifth (5th) International Radio Biennial.

At the end of the millennium’s first decade, television underwent complex changes in transmitting content and reaching families’ homes. The transition from an analog signal to a digital one and from files on videocassettes to digital files achieved an agile and dynamic operation. WIPR was the only channel in Puerto Rico that launched five over-the-air channels simultaneously with diverse programming (multicasting): 6.1 WIPR (100% local programming), 6.2 Best TV (lifestyle channel), 6.3 Kids TV (PBS Children’s programming), 6.4 El Canal de la Historia (the best of the Ángel F. Rivera Historical Archive) and 6.5 with 940AM programming. Likewise, in 2016 WIPR transitioned to a recording system without electromagnetic tapes, tapeless, to facilitate free access to content. This system operates through interconnected servers with all departments to safeguard an optimal operational flowchart. The related technical teams are regularly updated so that the departments work within the same ecosystem.

Then, in 2014, the Science Communications Laboratory (LCC) was created to promote general knowledge in all spheres of science. This project, in charge of the experienced meteorologist Ada Monzón, and the renowned communicator, Millie Gil, developed content in partnership with the University of Puerto Rico (UPR), Mayagüez Campus, and the Ecoexploratorio. In addition, it was a workshop to build cinematography skills in film students and communication skills in science students.



*Laboratorio de Comunicaciones Científicas
con la metereólogo Ada Monzón.*



A toda máquina, Reto estudiantil, ¿Quién sabe más?

Other educational projects of alliances, inclusion, and service to the academic community include the television programs (a) Club 6, (b) A toda máquina, (c) Reto Estudiantil, and (d) ¿Quién sabe mas?; as well as community outreach projects such as (e) Taller Cien, a series of interdisciplinary workshops between fine arts and Spanish developed for DEPR; (f) exhibitions of the artistic work of the filmmakers Luis Molina Casanova and Jacobo Morales; (g) the First Healthy-Life Fair; (h) Training Workshops for Storytellers; (i) Storytelling in the Park, under the artistic direction of the Puerto Rican multidisciplinary artist Tere Marichal-Lugo; (j) internships and volunteering opportunities for high school and college students; (k) multiple conferences on current issues; (l) festive and supportive visits to aegis and children's homes; and (m) special projects commemorating Christmas and other festivities celebrated in Puerto Rico and the world, among many other.

Likewise, WIPR generates educational content yearly under agreements with the accessible government, private and public entities, local and international, linked to academic excellence. These include: (a) the Department of Education; (b) the Sports and Recreation Department; (c) the Department of Housing; (d) the Institute of Puerto Rican Culture, (e) the Santurce Fine Arts Center; (f) Fine Arts of Caguas; (g) the Hunter College Center for Puerto Rican Studies at the City University of New York (CUNY); (h) the University of Puerto Rico and its 11 campuses; (i) the University of the Sacred Heart; (j) Science Puerto Rico; (k) the Puerto Rico Museum of Art; (l) the Puerto Rico Conservatory of Music; (m) the Festival of the Word; (n) the Language Congress; (o) the Casals Festival; (p) the Symphonic Orchestra of Puerto Rico; (q) ProArte Musical; (r) the International Congress of Writers; (s) Channel 22 of Mexico; (t) DICAPTA Foundation; (u) WGBH Boston; and (v) the Puerto Rico Education Initiative; among other. These institutions allow WIPR to transmit the generated educational content perpetually on TV and as VODs.





#EnCasaAprendo starts in June of 2020.

In the last decade, after the COVID-19 pandemic, the closure of schools, and the total confinement of the Puerto Rican population, WIPR unhesitatingly fulfilled its responsibility to bring education, learning, and knowledge to every home on the Island.

This is how **#EnCasaAprendo** was born; a project between the Department of Education and WIPR to support students in distance education processes to combat academic lag. #EnCasaAprendo began in June 2020 and lasted until December 2021. It is commendable to establish that the public distribution of these contents is available free of charge on TV and as VODs to our local communities. After an investment of twenty-two million dollars (\$22,000,000.00) from the Department of Education, the Government of Puerto Rico, and the Federal Government of the United States of America, #EnCasaAprendo completed three (3) seasons with a total of two thousand eight hundred and eighty-two (2,882) episodes and one thousand six hundred and sixty-six and a half (1,666.5) hours of educational content. In addition, it generated more than two hundred (200) jobs and reached over three million (3,000,000) viewers locally. The project arose as a model of televised education at the federal level. #EnCasaAprendo was featured and nationally recognized by CPB and PBS affiliate *American Public Television Stations* (APTS) at its 2021 and 2022 conventions.

In tune with the times and the need to offer content at any time to students, parents, teachers, and the community, WIPR developed an online distribution platform using YouTube, under the portal www.EnCasaAprendo.pr. This platform included digital assessments available through MS Forms under the DEPR domain @miescuela.pr. Each quiz was generated by active educators in the public education system and promoted on-screen with QR Codes that redirected to the episode's form. In addition, a commercial media campaign was carried out that included a QR Code to the dedicated website with marketing on billboards, printed and digital press, radio, and television. The twenty-eight (28) students who obtained the highest scores in the quizzes received scholarships and public recognition from DEPR.

La plataforma PRTV+; una aplicación multidispositivos disponible de forma gratuita a nivel local e internacional.



Nowadays, the television industry is making innovations in each station's signal to meet the changes in the devices where content is consumed, catering to audiences' educational needs under an OTT, mobile applications, and web browser approach. Aware of the importance of keeping WIPR at the forefront of technology, all #EnCasaAprendo content migrated to the PRTV+ platform, a multi-device, multi-platform intelligent application free of charge locally and internationally. In addition, this platform draws on the contents of the Ángel F. Rivera Archive and WIPR's unique and exclusive historical programming.

With PRTV+, each person enjoys WIPR's educational content, how, when, and where they want, always within reach.

This *Over-the-Top* (OTT) multi-device platform offers WIPR Radio and WIPR Television programming for an unlimited number of simultaneous users. PRTV+ livestreams WIPR content for consumption in real-time and On-Demand, VOD for its acronym in English. In addition, it includes a real-time interactive social platform, games, and push notifications. The app is compatible with iOS, Android, Apple TV, Fire TV, ROKU, and all web browsers.

Integrating WIPR into the ecosystem of intelligent applications is part of the transition from traditional television to broadcasting on demand by the user. In other words, the PRTV+ application integrates the Puerto Rico public-educational station into the *NextGen TV* universe. This term is already common in the market and visible on the packaging of the latest generation televisions. The technologies of the new television generation allow the broadcast of live content

and direct VOD to the smart TV. The changes to a digital and interactive world are evident, and the public-educational station of Puerto Rico is leading this transition on our Island.

Historically, WIPR boasts over forty (40) Academy of Television Arts Award nominations under the *Emmy Suncoast Chapter*. This positions WIPR as the public broadcaster with the most nominations within the region where we compete. In addition, at the local level, the WIPR News Department, Notiséis 360, receives recurring awards from the Puerto Rico Journalists Association, the *Overseas Press Club*, and the Photojournalists Association. Likewise, WIPR won the Best Local Informational TV Program award from the *Imagen Foundation* in Los Angeles, California, and the *Environmental Champion Award* from the Environmental Protection Agency (EPA) in 2016. The most recent award was in 2021, when Mayra Acevedo, a journalist for Notiséis, received an Emmy for her special report on *Caregivers in times of emergency*.

WIPR currently belongs to multiple national and professional educational radio and broadcast organizations; Among them: *Corporation for Public Broadcasting* (CPB), *Public Broadcasting System* (PBS), *American Public Television Stations* (APTS), *Library of Congress* (LoC), Association of Educational and Cultural Television Broadcasters of Ibero-America (ATEI) and the *Information Equity Initiative* (IIE). In addition, it has on-screen programming from international stations such as *Deutsche Welle* (DW), *Associated Press*, CNN, PBS, and PBS Kids.

The benefits of educational television have extensive international documentation. One of the most recent studies on the relationship between education and television was conducted in 2004 in South Africa. The research, entitled The uses of television broadcast-based distance education: a case study of the Liberty Learning Channel programme², led by Dr. Eunice Ndeto Ivala, investigated the role of television in distance education and established that:

“Conventional systems of education and current educational practices have fallen short of preparing citizens with a strong foundation of general education. The study, therefore, offers distance education not only as an alternative to conventional education delivery at secondary and higher levels of education but also as a low-cost alternative to expanding education. Constructivism is suggested as an alternative set of values that may significantly influence learning, and that can help develop the kind of citizens who can be able to function successfully in real-world contexts.”

² Ndeto, I. (2004) The uses of television broadcast-based distance education: A case study of Liberty Learning Channel Programme. https://www.academia.edu/25547194/The_uses_of_television_broadcast_based_distance_education_a_case_study_of_Liberty_Learning_Channel_programme (Accessed on June 9, 2022.)

³ Retrato Económico de Sudáfrica. Organization for Economic Co-operation and Development (OECD). <https://www.oecd.org/economy/south-africa-economic-snapshot/>



Regarding the effectiveness of this learning modality, the study shows that television is an efficient means to achieve traditional educational objectives. Therefore, televised education is vital to increase access to education; and correct the disparities caused by globalization and the lack of real-time, reliable, suitable, and secure information and communication technologies. Likewise, the study showed that South Africa is committed to developing televised education and that it solves many of the country's educational problems. However, the investigation recommends improving the quality of the conceptualization, development, and production of educational content, particularly within formal education. Regarding distribution and consumption, the audience said they liked the contents and reinforced conventional learning by helping learners with different capacities, opportunities, and challenges.

We see that in South Africa, the need for educational television is an essential and latent mechanism for developing a prosperous economy. Let us remember that South Africa is, in the year 2022, a region of high commercial value and development opportunities. Therefore, the importance of educational television and its evolution is an ongoing challenge.

South Africa is known for its diversity of cultures, languages, and religious beliefs, which is why it is known as the rainbow nation. Seventy-nine percent (79.5%) of the South African population is black and divided into different ethnic groups. It also has numerous communities of inhabitants of European and Indian origin. South Africa is one of the founding members of the African Union, also a founding member of the UN, and has the largest economy on the continent among all members. South Africa is also a country where there are significant inequalities among different social groups; The wealthiest one percent (1%) of the population owns almost eighty percent (80%) of the total wealth of the country, while the sixty percent (60%) with fewer resources concentrates at a seven percent (7%)³.

³Retrato Económico de Sudáfrica. Organization for Economic Co-operation and Development (OECD). <https://www.oecd.org/economy/south-africa-economic-snapshot/>

The approach to the relationship between television broadcasters and education in Spain is similar. Spain has comparable characteristics to South Africa regarding its population diversity and social inequalities. According to Concepción Medrano Samaniego, “Television is no longer just entertainment but has become one of the great channels to enculturate.”⁴ The Iberian mentality reconciles and experiments with education and television because: “television narratives can be an important dialogical mediator to reconstruct meanings.” (Medrano, 2006).

South Africa and Spain perceive the natural relationship between television and education to build their future generations’ identities and socio-moral conventions. This dialogue that these and other nations have in common invites us Puerto Ricans to provide new meanings and reflect and reconstruct the values we wish to experience today as a society. However, this exchange between the audience and the educational content results in learning research opportunities that Mexico invites us to explore. The United Mexican States has researched televised education since 1974, with constantly evolving measurement methods. To date, for Mexico, the student’s score on an academic test is only one of the indicators to measure the academic achievement of televised educational content. For this, the measurement must:

“(Research) so that the emphasis does not fall almost exclusively on the task of the ex-post evaluation of the programs, and that the criteria of excellence of a program are not given by the scores obtained by the students in performance tests.” (Gijaba, 1974.)⁵ (Emphasis ours.)

Therefore, integrating qualified personnel in education and public instruction is essential in pre-production. During this vital part of disseminating educational content, it is necessary to conceive, contextualize and produce its measurement. As in the classroom, the content must encourage interaction with the audience in the evaluation process to achieve the objective.

As a strategy, public stations globally implement multiple mechanisms to interact with their audiences and measure their content’s acceptance, reach, and use.⁶ Some of the most popular tools relevant worldwide include social networks, internet portals dedicated to a particular campaign, mobile platforms, and interactive games, learning management systems (LMS), as multiple other interactive learning ecosystems. We see this trend happening in the United States of America from PBS.

The PBS Audience Analysis for the year 2021⁷ reflects an increase in the consumption of its educational content and the audience’s interaction with this content on social networks. Linear consumption through traditional television declined thirteen percent (13%) from 2020 to 2021; while it increased sixteen percent (16%) for web platforms, ten percent (10%) for non-linear platforms (OTT), and four percent (4%) for mobile applications. PBS social activations on Facebook, Instagram, Twitter, and YouTube reached an aggregate of two hundred twenty-eight million four hundred thirty-four thousand (228,434,000) views and three million nine hundred thirty thousand (3,930,000) interactions. These results are consistent yearly and show a clear trend: citizens want us to meet them in the ecosystems where they control consumption, not vice versa.

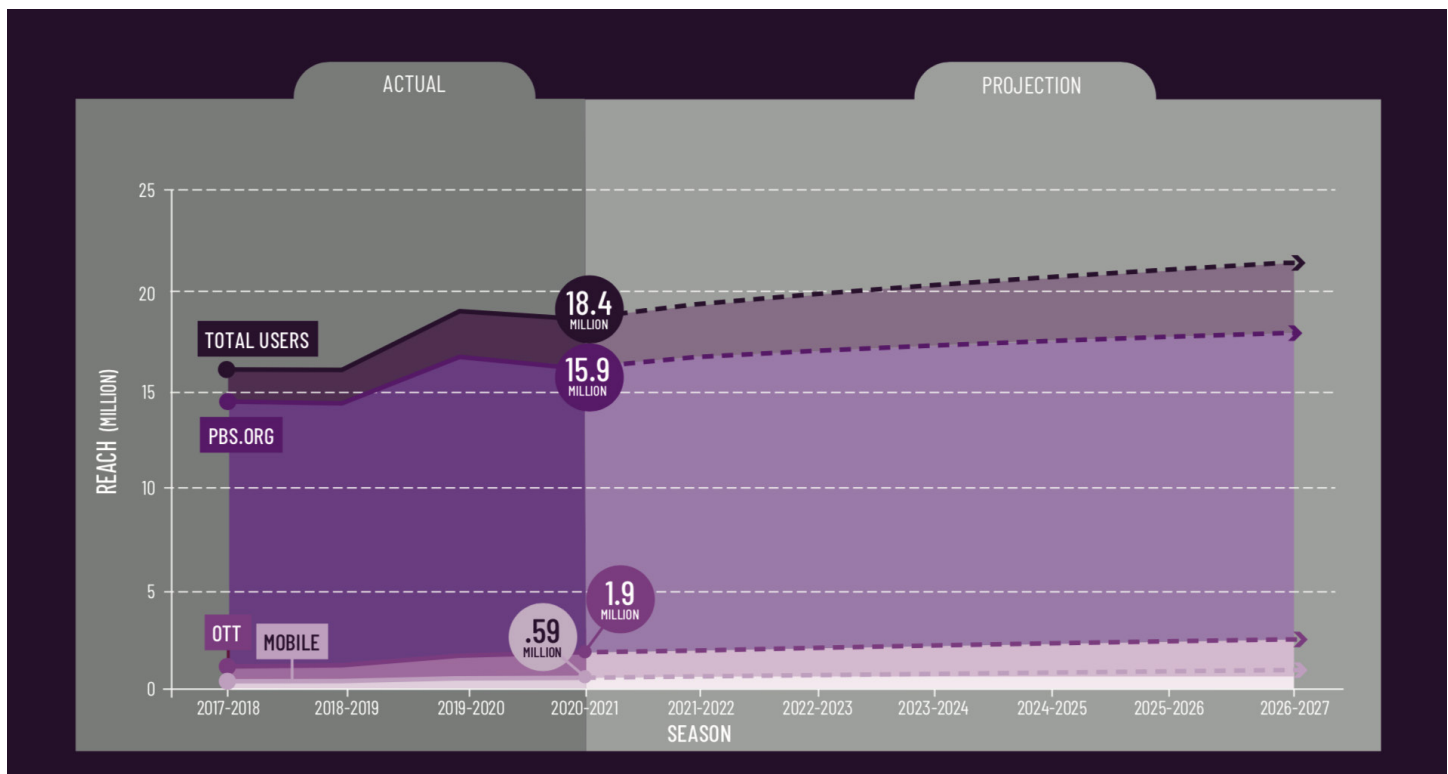


⁴ Medrano Samaniego, Concepción, and “THE EDUCATIONAL POWER OF TELEVISION.” *Journal of Psychodidactics*, vol. 11, no. 1, 2006, pp.93-107. Redalyc, <https://www.redalyc.org/articulo.oa?id=17514747007> (Accessed on June 10, 2022.)

⁵ Gibaja, Regina, and “(THE) RESEARCH IN EDUCATIONAL TELEVISION.” *Magazine Journal of the Center for Educational Studies (Mexico)*, vol. IV, no. 2, 1974, pp. 57-74. https://www.cee.edu.mx/rlee/revista/r1971_1980/r_texto/t_1974_2_04.pdf (Accessed on June 10, 2022.)

⁶ National learning platforms and tools. UNESCO. <https://en.unesco.org/covid19/educationresponse/nationalresponses> (Accessed on June 10, 2022.)

PBS DIGITAL REACH PROJECTION BY PLATFORM



To achieve this goal, commercial, state, and public-educational stations are required to transition to the new generation of television broadcasting, *NextGenTV*. The transition to this radio and television broadcasting mode implies operating systems with equipment that communicate with each other remotely. To this day, we achieve this goal internationally by transitioning from linear or traditional signals to non-linear signals or as required by the user. Linear modalities lose the audience to non-linear modalities. PRTV+ positions WIPR in the category of public-educational stations with distribution in combined modalities; and enables WIPR to implement next-generation television. To achieve this, televisions in Puerto Rico must be able to receive the *NextGen TV* signal or have a signal decoder.

Even with the changes in educational content consumption technologies, the natural relationship between broadcasters and education remains.

In response to all existing public and private investigations, the United States of America consistently and significantly invests taxpayer dollars in strengthening public-educational television and its direct and indirect services to students and their communities.

During the month of March of the year 2022, the United States Congress approved the disbursement of five hundred twenty-five million dollars (\$525,000,000.00) for distribution to public stations. It included thirty million five hundred thousand dollars (\$30,500,000.00) for the Ready to Learn program of the federal Department of Education. These monies will be disbursed among the over one thousand five hundred (1,500) public radio and television stations operating during the fiscal year 2024 using the traditional CPB fund allocation formulas.⁸

Given this historical disbursement of funds for the infrastructure of public stations and education, the Federal Government requires us to expand access to educational content and ensure equity and equality of conditions and opportunities for each student. In alignment with this federal call, over thirty (30) states offer distance education in the format of televised education to benefit students with academic lag. Many of the stations generate original content and supplement it with content from *PBS Learning*⁹, a PBS platform focused exclusively on educational and curricular content.

⁷ PBS Audience Insight, 2021 Annual Report. <https://dq4x88qhp5qj.cloudfront.net/documents/PBS-Audience-Insights-2021.pdf>

⁸ CPB Statement on Congress' Approval of Funding for Public Media. <https://www.cpb.org/pressroom/CPB-Statement-Congress-Approval-Funding-Public-Media>

⁹ PBS Learning Media Platform. <https://wipr.pbslearningmedia.org>



Faced with this reality, , [Alaska Public Media](#)¹⁰ and the Anchorage School District have partnered to provide original content to students from Pre-Kindergarten through twelfth grade. The State of [California](#)¹¹ and its public stations created the *California Public Media Education Service Coalition* to support teachers, parents, and students throughout the state. Similarly, [Colorado's Rocky Mountain Public Media](#)¹² provides educational resources to ensure an accessible, free, and quality education wherever the student consuming the content is located. These models are replicated in many other cities like [Houston](#)¹³, [Ohio](#)¹⁴ y [Sacramento](#)¹⁵.



In Puerto Rico, we have one million, five hundred and ninety-eight thousand, one hundred and fifty-nine (1,598,159) households throughout the ¹⁶ Each family has at least one television and receives programming through the air, cable, satellite, or the Internet.

¹⁰ At Home Learning. Alaska Public Media. <https://www.alaskapublic.org/education/athomelearning/athomelearning-page/>

¹¹ California Public Media Education Service Coalition. PBS Learning Media Platform. <https://wipr.pbslearningmedia.org/collection/california-public-media-education-service/>

¹² Colorado Classroom. Rocky Mountain Public Media. <https://www.rmpbs.org/coloradoclassroom/>

¹³ At Home Learning. Houston Public Media. <https://www.houstonpublicmedia.org/education/at-home-learning/>

¹⁴ Learning at Home. WOSU Public Media (Ohio). <https://wosu.org/classroom/learningathome/>

¹⁵ At Home Learning. PBS KVIE (Sacramento). <https://www.kvie.org/at-home-learning/>

¹⁶ 2020 Census Results for Puerto Rico and its Municipalities. <https://censo.estadisticas.pr/node/499>

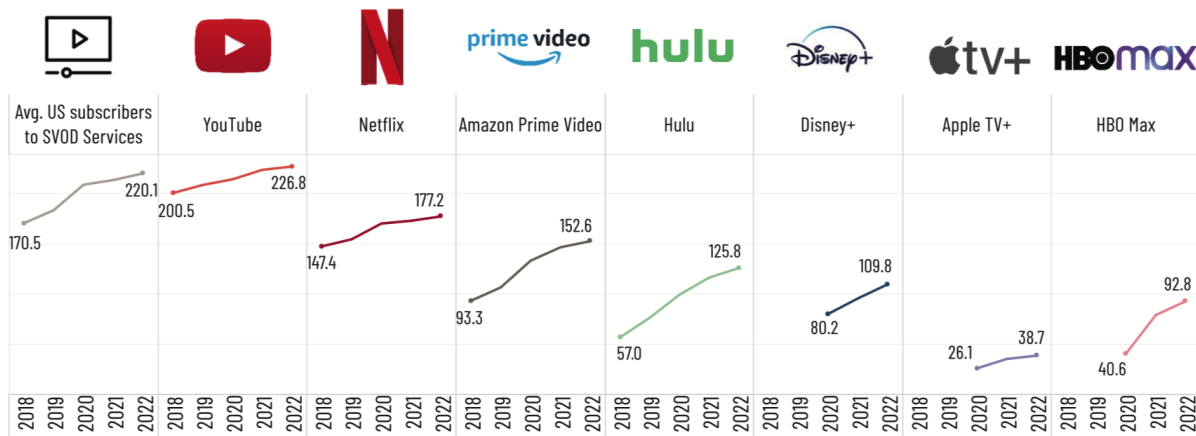
However, it is even more interesting that as of March 2022, according to the Puerto Rico Telecommunications Bureau, there are three million seven hundred and sixty thousand nine hundred and forty-three (3,760,943) mobile devices with cellular technology; as well as three million seven hundred ninety-eight thousand two hundred sixty-six (3,798,266) subscribers to Internet services.¹⁷ With most of the population connected to their cell phones and the Internet, an opportunity for collaboration and research between traditional education and the forefront of knowledge and innovation experienced by public-educational radio and television broadcasters materializes in *NextGen TV*.

PRTV+, as part of *NextGen TV*, leads WIPR to expose Spanish-language educational content, original and licensed, to international communities to educate, inform and highlight the culture, commonalities, and attractions of our Hispanic diversity.

3,760,943
MOBILE DEVICES WITH CELLULAR TECHNOLOGY

3,798,266
SUBSCRIBERS TO INTERNET SERVICES

STREAMING VIEWER TREND AND FORECAST US OTT VIDEO VIEWERS BY PROVIDER, IN MILLIONS



PBS AUDIENCE INSIGHT 2021



¹⁷ Statistics of the telecommunications industry in Puerto Rico. Telecommunications Bureau of Puerto Rico.
https://www.jrtp.pr.gov/estadisticas/Estadisticas_Telefonia.pdf

RECORDING AND BROADCAST CAPABILITY (DISTRIBUTION)

WIPR-TV has state-of-the-art technical equipment. This allows the stations of the town of Puerto Rico to continue the production of worldwide content on the Island. The updated inventory of permanent specialized equipment includes:

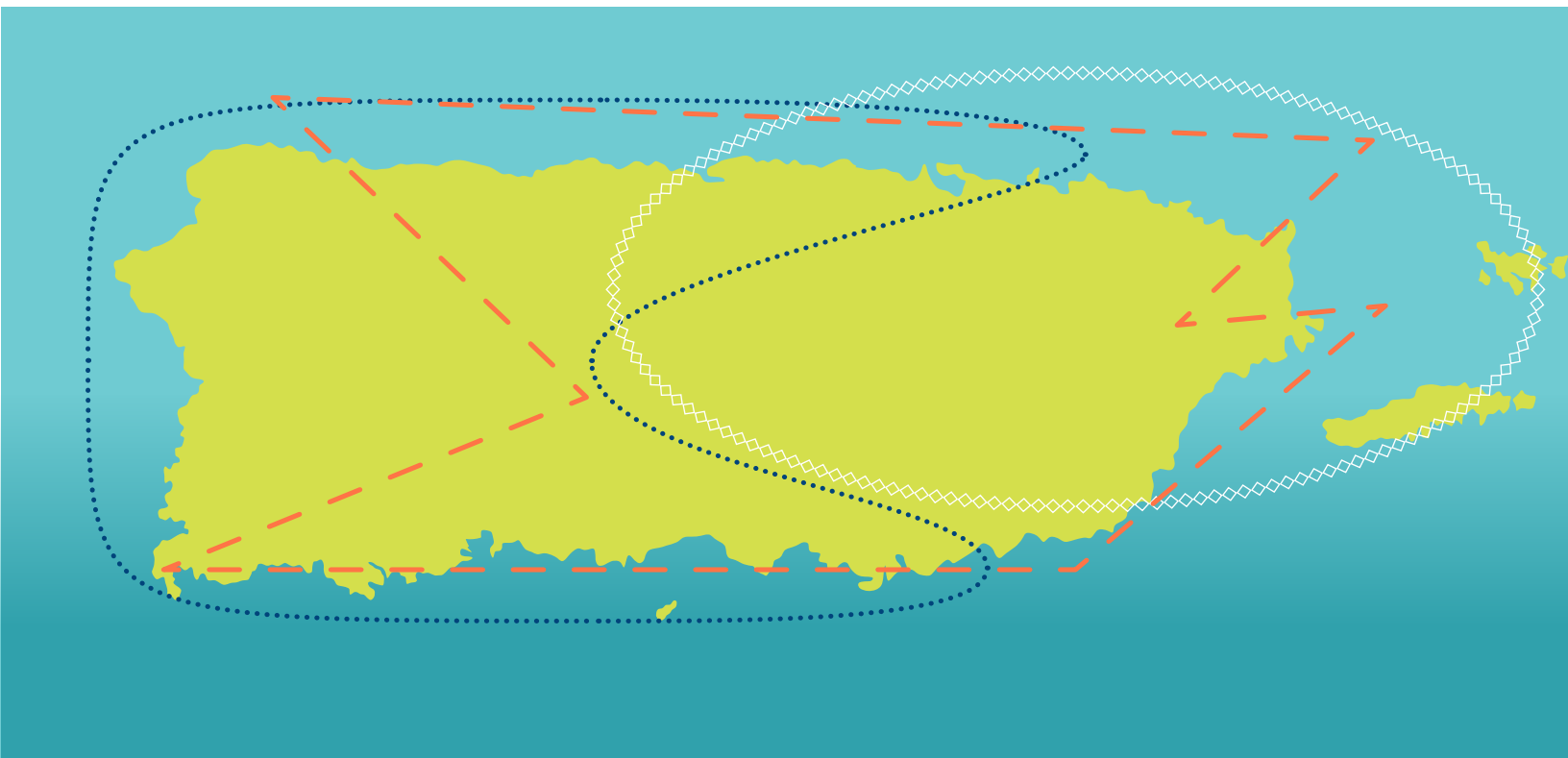
- Two (2) mobile units with HD 1080 60i *video switcher*, audio console with forty-eight (48) channels, two (2) digital recorder systems, one (1) digital recording system with replays, fourteen (14) cameras HD, four (4) video monitors, and two (2) graphics systems
- One (1) *Flypack system* with one (1) twelve (12) input *Blackmagic™ video switcher*, four (4) *JVC cameras*, four (4) *tripods*, one (1) *Blackmagic™ digital recorder*, and one (1) *audio mixer* with twelve (12) inputs
- Five (5) IP-TVU backpack transmission systems with their signal receivers
- One (1) 6Ghz RF microwave transmitter and receiver set
- Two (2) portable electric generators (Pramac 20kw and RK-Power 60 KW) and four (4) fixed (Caterpillar - 1200kw, RK-Power -20KW, RK-Power-20kw and RK-Power- 100Kw)
- Six (6) computers are programmed to operate the teleprompter systems
- Three (3) *Grass Valley T2 recorders*
- Two (2) *Axel Technologies You Play recorders*
- Eight (8) *Blackmagic™ recorders*
- Harris Automation System with Eight (8) TB Server
- *Axel Technologies* automation system with one hundred twenty-eight (128) TB server
- Server for Production and Archive with one hundred twenty-four (124) TB
- Twenty (20) TB cloud storage for VOD content
- Four (4) editing rooms for post-production
- One (1) quarter edition for promotions
- Five (5) quarter editions for news
- Three (3) independent editing systems
- Six (6) HD 1080 60i television studios, equipped with fourteen (14) studio cameras, one (1) giant screen with dimensions of 8x32 feet, twenty-four (24) wireless microphones, nine (9) intelligent screens, twelve (12) floor monitors, six (6) graphics systems, six (6) *teleprompter systems*, six (6) sixty-four (64) input audio consoles and six (6) twenty (20) input *video switchers*.



In addition, the educational stations of Puerto Rico have seven (7) distribution channels and integrate social networks to interact with their followers through Facebook, Instagram, Twitter, TikTok, YouTube, and PRTV+. WIPR distribution includes: (a) two (2) radio stations, 940 AM and Allegro 91.3 FM; (b) two (2) public-educational television stations with the initials WIPR's 6.1 to 6.3 and WIPM's 3.1 to 3.3, with air, cable, and satellite distribution; (c) redundancy of the primary signal over the air, cable and satellite through channels 7.1 and 7.2 of Teleisla (Univisión); (d) one (1) corporate and news platform at the web address www.wipr.pr; and (e) one (1) OTT intelligent application, PRTV+, with multi-device functionality for Apple and Android mobiles, tablets, computers, Apple TV, FireTV, and ROKU.

To achieve this distribution, WIPR has a network of towers, antennas, and transmitters distributed throughout Puerto Rico that offer free air signals to the entire Island. Channels 3.1, 3.2, 3.3, 6.1, 6.2, 6.3, 7.1, 7.2 over the air signal, 203, 206, and 207 on *Liberty Cablevision*, 6 on *Dish Network*, 6 on *DirecTV*, and 6 on NAICOM carry WIPR's signals 24/7.

In 2021, WIPR reinforced its air signals to reach all of Puerto Rico with an investment in infrastructure for both television and radio of seven million dollars (\$7,000,000.00); funded by the *Federal Communications Commission* (FCC) and the US Department of Agriculture. With this grant, a state-of-the-art transmitter was installed, and the broadcast microwaves were updated in Maricao to ensure a powerful Western signal. These changes respond to the need to transition to *NextGenTV*.



Coverage map with WIPR, WIPM, and WSTE antennas and transmitters)



NextGen TV, also called ATSC 3.0, is the third generation of digital television and a giant technological advance for viewers. The new generation of televisions and antennas offer amazing video with brilliant colors, sharper images, and more profound contrast that will make the viewer feel like they are there, where the action happens. Plus, *NextGen TV* features Dolby Audio that intelligently enhances dialogue, maintains a constant volume when you change channels, and moves around you while you watch TV.

ATSC 3.0 merges over-the-air broadcasts with content from broadband sources when connected to the Internet. This means that *NextGen TV* is optimized with content from the Internet to get the most out of sports, news, events, and other features in real-time.

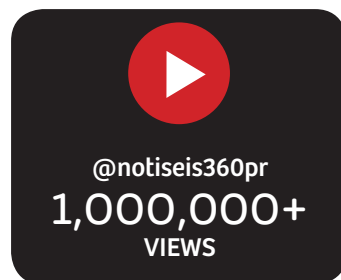
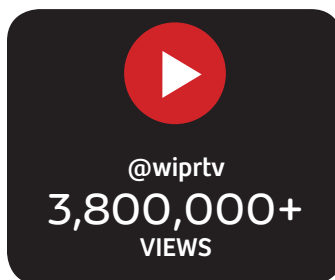
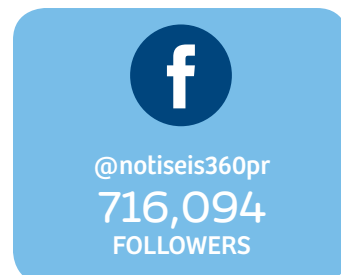
This technological upgrade transforms free broadcast content into an interactive opportunity with bonus content, more informative emergency alerts, and a customizable viewer guide. Ultra-high-definition 4K HDR video with brilliant colors gives you a sharper picture with a broader range of contrast for next-level clarity in your content. You can receive *NextGen TV* without an Internet connection but adding one will give you access to all interactive features.

NextGen TV is a free over-the-air service available in most major markets. All you need is a converter box or a *NextGen TV* with an HD antenna to enjoy a wide variety of streaming channels free of charge. This service will be launched in Puerto Rico during the year 2023.

WIPR's presence on social networks is an alternative for promoting and disseminating original content. The scope per platform is as follows:

- The website (www.wipr.pr) has over three million nine hundred sixty-nine thousand six hundred eight (**3,969,608**) visits.
- WIPR's Facebook page (@wiprtv) has seventy-one thousand six hundred (**71,600**) followers and a reach of over four million three hundred thousand (4,300,000) users, with a distribution of sixty-six percent (66%) women and thirty-three percent (33%) men.
- The Facebook page of Notiséis 360 (@notiseis360pr) has seven hundred sixteen thousand ninety-four (**716,094**) followers and a reach of over two million three hundred thousand (2,300,000) users; with a distribution of sixty-four percent (64%) women and thirty-six percent (36%) men.
- WIPR's Instagram page (@wiprtv) has two thousand nine hundred (**2,900**) followers, with a distribution of sixty-four percent (64%) women and thirty-six percent (36%) men.
- The Instagram page of Notiséis 360 (@notiseis360pr) has thirty thousand two hundred (**30,200**) followers, with a distribution of sixty-four percent (64%) women and thirty-six percent (36%) men.
- The Notiséis 360 Twitter page (@notiseis360pr) has seventy-nine thousand three hundred (**79,300**) followers and one hundred seventeen thousand (117,000) impressions.
- The YouTube channel of Notiséis 360 (notiseis360pr) has fifty-nine thousand five hundred sixty-seven (59,567) subscribers, over three million eight hundred thousand (**3,800,000**) views, over forty million seven hundred thousand (40,700,000) impressions and a demographic of thirty-two percent (32%) women and sixty-eight (68%) men.
- The YouTube channel of WIPR (wipr) has sixteen thousand four hundred and eighteen (16,418) subscribers, over one million (**1,000,000**) views, over nine million nine hundred thousand (9,900,000) impressions, and a demographic of twenty-four percent (24%) women and seventy and six percent (76%) men.
- The app PRTV+ has twelve thousand nine hundred and two (**12,902**) users with three months on the market.

Thanks to innovations in recent times, WIPR coverage reaches 99% of the local territory, and, finally, its contents are in the international, national, and regional market for free.



VIABLE SERVICE AREAS FOR COLLECTIVE AND INDIVIDUAL EDUCATION

Considering international, federal, and state regulations and trends, together with WIPR's historical relationship with Puerto Rican education and its capacity for both production and distribution, the stations of the Puerto Rican people are a cutting-edge tool for the Department of Education, the post-secondary, and graduate entities as well as for all government entities of the Commonwealth of Puerto Rico or the Federal Government with some need to educate. The educational content produced with WIPR has a massive reach under a multi-device and multi-platform distribution model.

Some of the areas of opportunity to strengthen the offer of educational services to the diverse communities of the world, using the Puerto Rico Corporation for Public Broadcasting as a vehicle, include:

A. Conceptualizing, developing, and producing original content for radio, television, multimedia and interactive formats; aimed at students, professionals, and the community.

WIPR's production and dissemination capacity serve to educate according to the curricula designed for each specialized or general knowledge area. This service allows all government entities, emphasizing those in charge of education and instruction, to reach their audiences in innovative, interactive, and synched to new learning modalities. Similarly, it allows public and private entities to have a greater scope. The generated content can be structured for a specific medium: radio, television, interactive experiences, or multimedia. Some current and viable opportunities are to conceptualize, develop and produce:

- 1. Content aligned to the academic curricula and the educational needs** of differentiated communities. Examples: training, formal classes, master classes, talks, informal education, continuing education, training, materials for trainers and tutors, professional workshops, and tutorials to combat knowledge lag. These contents can be generated for typical students, students with special needs, professional communities, and the community in general. Communities with special needs are served through audio-books, content translated into sign language, and audio-described or subtitled content.
- 2. Content aligned to relevant information needs** for differentiated communities. Examples: messages from each governmental power (Executive, Judicial and Legislative) as well as their dependencies, communications, updates and scheduled or emergency notifications, messages on public policy and operational philosophy, etc
- 3. Content aligned to cultural needs** for differentiated communities. Examples: artistic events (concerts, recitals, theater, festivals, among others), official ceremonies (awards, distinctions, graduations, among others), historical events, documentation of trends and regulations that guide collective behavior within a significant period or that enrich collaborative learning within an academic or secular environment, etc.
- 4. Advertising campaigns** to promote effective learning on specific topics aimed at differentiated communities in audiovisual, digital, and print formats. Examples: the importance of reading, the graphic novel as a catalyst for reading, the role of the family in education, the principles and application of ethics, the social benefits of civility, current legal regulations, etc.



5. **Immersive workshops in the** for developing specific and general skills necessary for community life, the evolution of knowledge, and the socio-economic development of the communities served. Examples: agronomy, crafts, fine arts, communications, construction, economics, engineering, systems programming, robotics, etc.
6. **Interactive games** linked to the contents, campaigns, and immense workshops generated to include the measurement of the use of the services offered in a quantifiable and empirical way; at the benefit of the innovation of each project and its practical, efficient, and effective evolution to serve its audience. This content modality is a development opportunity for applications and interactive games dedicated to childhood, primary, secondary, post-secondary, graduate education, and communities with unique needs.

B. Distributing content through a responsive, multi-device, and multi-platform broadcast strategy: television (air, cable, and satellite), mobile (iOS & Android), smart TVs (Apple TV, Fire TV, and ROKU), web and commercial media.

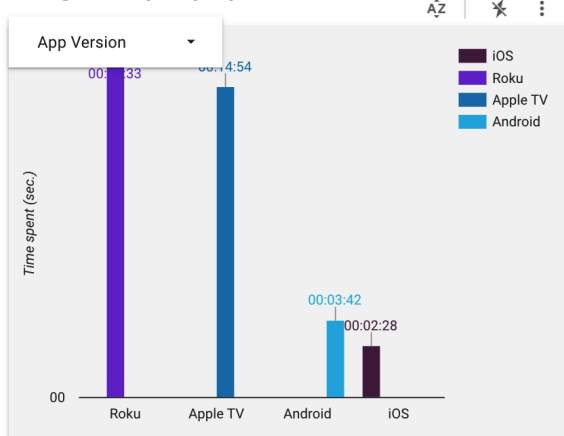
WIPR's distribution capabilities include two (2) radio stations, two (2) television stations with broadcast redundancy, and multiple social networks to engage with their followers, such as Facebook, Instagram, Twitter, TikTok, YouTube, PRTV+, plus dedicated web pages. In addition, WIPR distributes its contents in various mass and commercial media such as written and digital press, *billboards*, *Google Ads* and advertisements on web pages, radio and commercial television broadcasters, and various printed publications, among other public, commercial, and

promotional distribution alternatives. Under this distribution modality are included:

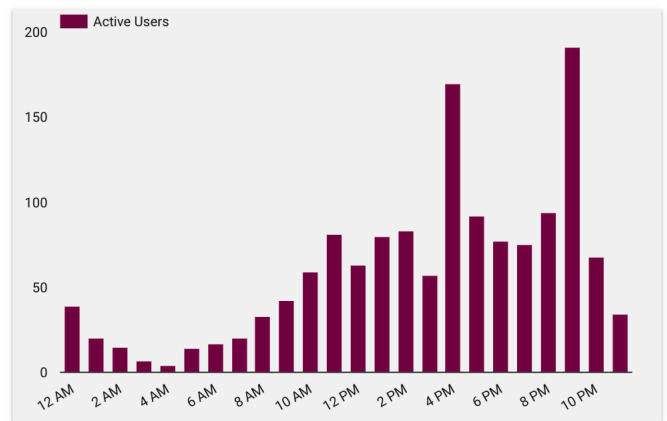
1. **Original Content** conceptualized, developed, and produced by WIPR.
2. **Audiovisual materials since 1958 from the Ángel F. Rivera Historical Archive.**
3. **Audiovisual materials from the General Archive of Puerto Rico and the Institute of Puerto Rican Culture.**
4. **Advertising campaigns** for different entities, public and private.
5. **Promotions of the campaigns, contents, games, and workshops** for the different public and private entities.
6. **Existing content from government, public, and private entities** for distribution within a media communications ecosystem maximizes this content's reach.



Average time spent per platform



Active users that watch content per hour



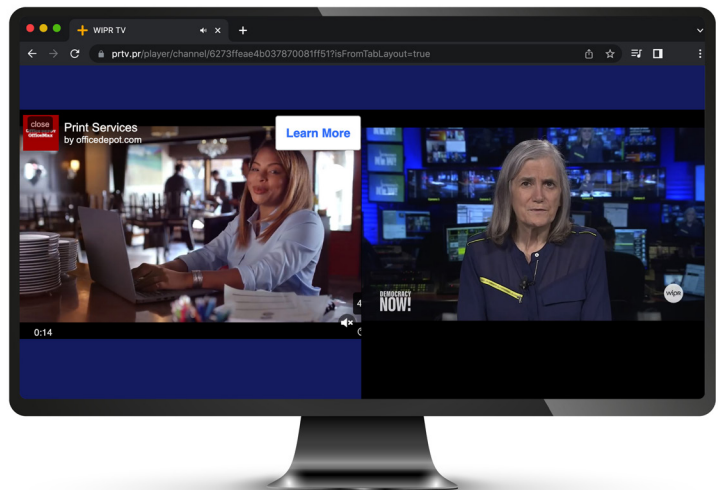
C. Measuring the scope, acceptance, and use of the content generated and distributed by WIPR for government, public and private entities.

WIPR's daily operation systems capture the **necessary data to analyze, understand and optimize audiovisual production's effectiveness, efficiency, and efficiency in Puerto Rico**. Measuring the results of each execution requires a structured and weighted evaluation from the conception of each project. WIPR **integrates specialists from each area of knowledge and conceptualizes, develops, and produces educational, informative, and cultural content with specialized personnel**. This approach to delivering projects facilitates their dissemination within the mass media and evaluating their performance. Likewise, **it integrates experts in measuring the scope, acceptance, and use** for each campaign's evolution and future development, content, game, or workshop generated.

D. Innovating traditional broadcasting through a multi-device distribution of generated content; to reach the user in his favorite ecosystem.

The responsibility given by the FCC to public stations amid the transformation of television broadcasting is to innovate. WIPR implemented the required technological changes and positioned itself at the forefront of television in Puerto Rico by offering:

1. **Real-time interaction between users and their communities** with educational audiovisual content through conversations, games, and surveys within the PRTV+ platform.
2. **Tools to combat academic lag and reinforce learning through content available On-Demand (VOD) with interactive games in real-time.**
3. **User immersion within the content** through virtual reality with videos in three-hundred-and-sixty-degree format (360°) and augmented reality.
4. **Non-invasive advertisements** within the multi-device content of PRTV+.





E. Integrating PBS content for children, adolescents, and adults, with additional tools to understand and integrate the episodes within educational experiences.

PBS programming through WIPR serves communities differentiated by age, gender, and interests. These contents are consumed through live distribution through WIPR's signals and PRTV+. The user can consume PBS products in multiple scenarios, such as home, government offices, workplace, and study center, among other possible usage scenarios.

PBS content for kids and teens is categorized as PBS Kids and includes shows like *Sesame Street*, *Alma's Way*, *Curious George*, *Arthur*, and *Molly of Denali*, among others. More dense content suitable for adolescents is grouped under

the PBS category. This category includes shows like: *NOVA*, *Nature*, *Finding your Roots*, *PBS Newshour*, and *Great Performances*, among others. All programs aimed at children and adolescents have educational guides in English for integrating content in the classroom in English. However, WIPR can generate:

1. **Educational guides in Spanish of the contents of PBS Kids in alignment** with the academic standards and expectations.
2. **Educational guides in Spanish of the contents of PBS in alignment with our communities' cultural, educational, and informative needs.**
3. **Educational events** for interaction with the characters of PBS content.

F. Integrating contents of the Association of Ibero-American Educational and Cultural Television Broadcasters (ATEI) for children, adolescents, and adults, with additional tools to understand and incorporate them within educational experiences.

ATEI has twenty-eight (28) partners from twenty-one (21) Ibero-American countries that share excellent content for broadcast through affiliated stations. These contents present educational and current issues with points of view contrasted with the realities of Latin America and Europe. Some of the contents of ATEI disseminated by WIPR are the Cultural Scientific Newsletter and Lives and Drinks, among others. Red TAL is the union of public and cultural channels in Latin America. This network of television broadcasters provides a space for co-production, exchange, and strengthening of regional public service television systems. Its values promote: (a) a culture of cooperation for the mutual strengthening and positioning of Latin America; (b) a citizenry in movement that integrates diversity, aesthetic innovation, and commitment to reality; and (c) audiovisual sovereignty as a meeting point with quality television. Some of the Red TAL programs that WIPR distributes are:

1. Antarctica: Polar Challenge – series on global warming and its effect on the poles.
2. México Negro – documentary series on the contribution of the different African peoples to the identity and culture of the United Mexican States.

The benefits of belonging to ATEI¹⁸ and eRedTAL¹⁹ includes:

1. Join the largest network of cooperation in the use of television to improve education, culture, and science in Ibero-American countries.
2. Co-produce and disseminate content equally beneficial for the participants through collaborations between Institutions and Entities of specialized and technical training. The cost-benefit ratio of productions and

co-productions will always be favorable for the member, partner, or collaborator since ATEI is not for profit and has a highly professional technical team.

3. Share an audiovisual collection with more than two thousand five hundred (2,500) programs and content that can be consulted and requested for broadcast.
4. Disseminate and contribute to keeping Puerto Rican culture and identity alive, having the possibility of disseminating content, programs, and events through the channels and platforms of ATEI and RedTal partners throughout Ibero-America.
5. Being part of the Ibero-American Scientific and Cultural Newscast, with an estimated audience of more than eighty million (80,000,000) people and broadcast through more than one hundred and seventy-one (171) entities throughout Ibero-America, the United States, and Canada; sending journalistic contributions to the different newscasts and adding them to its programming grid.
6. Contribute to human resources training through courses, workshops, seminars, and internships or stays.
7. Access the resources, materials, and training programs of the Training Institute ATEI – ICATEI.

With access to the benefits of ATEI and RedTal, WIPR can provide additional services aligned to the Island's contents and cultural, educational, and informational needs. Some of these are:

1. **Educational guides in Spanish of ATEI contents** aligned to the cultural, educational, and informational needs of government entities and public and private entities interested in its consumption.
2. **Educational events** for interaction with the figures of ATEI content.



¹⁸ Asociación de televisoras Iberoamericanas (ATEI). <http://atei.es/>

¹⁹ RedTAL. <https://redtal.tv>

H. Generating supplemental media for existing content.

The stations of the Puerto Rican people offer additional services for the generation and distribution of content for both the Government of Puerto Rico and commercial, public, and private entities. These complimentary services are independent and result in opportunities to strengthen existing or new content. The complementary services available are:

1. **Audio description of content** – visual content that sighted people enjoy is described so that non-sighted audiences can imagine it. The reports are located between the dialogues or parliaments of the original content.
2. **Sign Language**– the audiovisual content is translated into sign language to understand the message by deaf communities.
3. **Subtitles** – contents whose original language is not Spanish are subtitled with the translation of the parliaments into Spanish.
4. **Translations** – printed content whose original language is not Spanish is translated in its entirety into the Spanish language. Likewise, content whose original language is Spanish can be translated into English.
5. **Data distribution** – the contents distributed through the internet signal can be distributed using television signals through datacasting technology. This service includes the devices required by the user to receive the data at home, school, workplace, or public spaces.

6. **Audio recording studios** – WIPR Radio facilities have the technical equipment and technologies for recording dubbing, film music, musical demos, and complete discographies.
7. **Stage-set construction** – WIPR's construction workshop has the staff and technical equipment to design, build, assemble and disassemble sets for cinema, artistic performances (visual arts, music, theater, among others), and television.

I. The offer of educational services unrelated to the conceptualization, development, production, and distribution of content, campaigns, games, or workshops.

As part of its educational mission, WIPR uses its facilities and trained personnel to collaborate with the education and instruction of Puerto Rico from multiple dimensions. Some of these services are:

1. **Practice center** for students at schools and institutions of secondary, post-secondary, and graduate education specializing in communications, radio, and television.
2. **Curricular development** of the academic components related to the study of communications, radio, and television.
3. **Activity rooms** for events related to education. WIPR studios are transformed into spaces for meetings and special events of an educational nature.



²⁰ Datacasting - Broadcasting Real-Time Video and Critical Data over Existing Digital Television Spectrum Fact Sheet and Video. Department of Homeland Security. <https://www.dhs.gov/publication/st-datacasting-fact-sheet>

THE WIPR SERVICES EDGE



The Puerto Rico Corporation for Public Broadcasting differs from the universe of local advertising, radio, and television broadcasting agencies. It is a public corporation with fiscal autonomy that maintains close relationships with multiple government institutions and public and private entities of local, national, and international origin. Collaboration with these entities allows the resulting products to integrate diverse perspectives and approaches to information and knowledge in service of diversity and inclusion. Organizations such as the Department of Education, the Department of the Treasury, the Fortress of Puerto Rico, and the University of Puerto Rico are some regular collaborators besides the stated.

WIPR's organic law allows it to subcontract specialized and professional services required for an agile, reliable, and dynamic corporate operation

This benefit enables each conceptualized, developed, produced, and distributed project to have the necessary experts so that the cultural, educational, and informative topics they spread to the communities catalyze learning and social transformation.

The stations of the people of Puerto Rico offer a unique versatility in their broadcast schedules for the convenience of the general audience. WIPR offers its contents when users want and can access them in various modalities, both live and as required. Real-time content is broadcasted on the television screen, radio stations, and in the same name category as required by the user within a user-free Ad-based Video-on-Demand (AVOD) version along with a membership paid Subscription Video-on-Demand (SVOD) without ads. These distribution models enable us to meet users how, when, and where they want.

WIPR complies with its engagements because the stations conduct their operations in compliance with the highest ethical values. Faced with the social crisis affecting the entire population, we intervene, contributing to improving social coexistence in preparation for the future challenges we will experience together. This approach to each conceptualized, developed, produced, and distributed project allows us to include the values and ethical principles that should contribute to forming current and future societies.

CONCLUSION



The Puerto Rico Corporation for Public Broadcasting has the technical and technological capacity and the programmatic culture to meet the educational needs of government entities and public and private organizations and institutions called to educate communities. This capacity transcends the production of audiovisual content and includes multiple opportunities to educate, instruct, and transform the lives of Spanish-language audiences.

WIPR is a pillar for the education and instruction of citizens in the face of international, federal, and state regulations and trends. The services rendered are essential to succeed together across the challenges that transform the day-to-day life of our families. Let's work together to bring education, information, and culture to every corner of Puerto Rico and our Spanish-speaking communities in the continental United States.





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