

## Chapter 3.1.

# 4-H Web Wizards – Technology Bridges Cultural and Economic Divides for Latino Youth

**John Baggott, Lisa Conroy, Gregg F. Mitchell, Cecilia Giron and Emilio Canas**

*About the authors:* Baggott ([John.Baggott@oregonstate.edu](mailto:John.Baggott@oregonstate.edu)) and Mitchell ([Gregg.Mitchell@oregonstate.edu](mailto:Gregg.Mitchell@oregonstate.edu)) are Extension 4-H Faculty and Staff Chair, Conroy ([Lisa.Conroy@oregonstate.edu](mailto:Lisa.Conroy@oregonstate.edu)) is Extension 4-H Faculty and Giron ([Cecilia.Giron@oregonstate.edu](mailto:Cecilia.Giron@oregonstate.edu)) is 4-H Program Assistant, The Oregon State University Extension Service, Beaverton, Oregon. Canas ([Emilio.Canas@Intel.com](mailto:Emilio.Canas@Intel.com)) is Technical Marketing Engineer at Intel Corporation, Hillsboro, Oregon.

### *Abstract*

Latino youth in Washington County, Oregon, are poised for success as a result of the 4-H Web Wizards program. Prior to the inception of the program, the dropout rate for Latino youth topped 30%. A new and original program, 4-H Web Wizards enhances learning by providing the targeted student group with the trend-setting technology education that students requested and delivering that education in partnership with 4-H, private industry, schools, volunteers, libraries, non-profits, and other community partners.

### **Introduction**

Washington County Latino youth are poised for success as a result of the 4-H Web Wizards program. Prior to the inception of the Web Wizards program, the dropout rate for Latino youth topped 30%. Of the 90 students who have participated in the program, only three have dropped out. The program was created by Oregon 4-H Extension faculty after they gathered some statistics as a part of a community needs assessment in 1997.

Community partnerships, cultural pro-activism, and a no-compromise approach to the technology part of the program have been key factors in its success. The notion that communities support what they have had a part in creating has been particularly true with the 4-H Web Wizards program. Since a rather inauspicious beginning, the breadth and depth of community partners has grown on a nearly exponential basis. The program currently has over 30 community partners. More importantly, the partners are willing to “ante up,” providing hard dollars to make programs possible. To date, the 4-H Web Wizards program has received

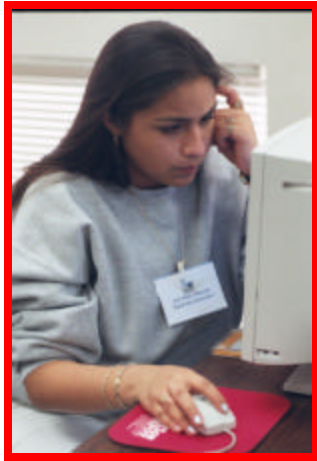
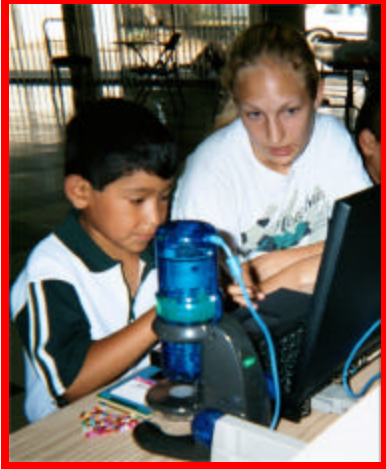
\$250,000 in direct grant support from the Intel Corporation, and indirectly, an additional \$145,000 in support for related programs.

On the cultural front, the intercultural perspective, with its theoretical underpinnings (Bennett, 1993), provided the basis for program development. It was recognized that a Latino staff member would have more access and credibility in the local community (Rowland, 1990). Fortunately for the program, Cecilia Giron, a 4-H Youth Development Program Assistant who specializes in Spanish-language programs, came to the foreground. Coming from a Latino heritage, Cecilia instinctively understood that personal relationships are absolutely critical to programmatic success. She spent more than three months listening to students from Forest Grove High School, where the [4-H Web Wizards](#) program started. She heard about their interests, concerns and ideas on why students dropped out - and what courses and programs might tempt them to stay.



Carmen DeNeve (1997) states that to understand people, one must understand their cultural orientations, as well as the issues that exist within relationships and systems (Dugan, 1994). The framework for program development began by identifying some of the factors impacting the Latino youth in Washington County. Generally, the framework assists participants in assessing the current situation, elicits the desired situation from participants, and designs a program with participants that effects the desired change (Lederach, 1986-1997).

Contrary to the minimalist approach that Extension often uses, the 4-H Web Wizards program was structured from the beginning to focus on emerging technologies in a no-compromise fashion; and introducing youth to marketable, state-of-the-art workplace skills, project team structure, and the benefit of an excellent education. “Top of the line” equipment was provided for the teens and projects were identified to explore trend-setting technologies such as web page design and creation, streaming video, and digital editing.



## Why 4-H Web Wizards?

In 1997, the Rockefeller Foundation Three Valley's Project conducted a community needs assessment project in the western part of Oregon's Washington County. The assessment resulted in the following four goals for Washington County concerning activities and educational programming involving youth:

1. Strengthen the cultural Identity of youth;
2. Utilize local resources for sustainability;
3. Strengthen relationships between youth and adults; and
4. Assist youth to envision themselves participating in a bright future and provide the necessary leadership skills and competency education to achieve that participation.

Following the Three Valley's project model, 4-H faculty and staff convened a series of focus groups and conducted additional individual interviews with youth, school and agency personnel, parents, juvenile justice counselors, and community opinion leaders to brainstorm the most desired method for addressing the goals listed above (Weisbord, 1992). During two community conversations, it was revealed that while there are currently many mentor-style programs for youth, none self-reported that they successfully incorporate Latino youth. The recommendation

emerging from these sessions was to develop relationships with Latino youth, discover their interests, and then develop programs addressing those interests using culturally appropriate methods. After three months of listening to the Latino youth, the 4-H Web Wizards project was developed in response to their interest in a **mentoring and leadership development program teaching basic media, computer and Internet technology skills, promoting industry awareness, and exploring engineering, math and science careers.**

To meet the articulated needs, the 4-H Web Wizards program was created as a multi-level, mentoring/teaching program. The progression and sequence of the program is:

1. Adults and OSU PROMISE student interns mentor teens (grades 9-12).
2. Teens (9-12 grades) mentor middle school students (6-8 grades).
3. Teens (7-12 grades) mentor adults and families in the community through community service.

## **Program Description**

4-H Web Wizards is an original program that enhances learning by providing the targeted student group with student-requested technology training delivered in partnership with 4-H, schools, volunteers, libraries, non-profits, and other community partners. The 4-H Web Wizard's eight-week pilot program was conducted at Forest Grove High School. Local industry became involved as Intel Latino Network volunteers taught the class, developed curriculum, and mentored the students. Students learned computer and web skills from Latino adult mentors who provided positive role models for the students to emulate. Additionally, students learned life skills such as goal setting, problem solving, presentation and public speaking skills, and decision-making.



Once high school students learned computer and web skills, they became mentors and role models for middle school students and adult and family members of their communities. With their mentors' assistance, they taught the 4-H Web Wizard curriculum to middle school students, and mentored adults and family groups in basic computer and Internet skills by volunteering time at local libraries.

Librarians are only able to provide Spanish-speaking patrons minimal help with computer training to access library collections, making the assistance of the 4-H Web Wizards all the more valuable. Monolingual Latino parents, in particular, who come to the libraries, often come with pre-K children. The libraries needed help assisting both adults and children. Students provided

a specialized service of bilingual, bi-cultural assistance to Latino patrons, and assistance to all other interested patrons in exchange for access to computers (since most do not have access at home). This allowed them to continue to hone their own computer skills, providing a win-win situation for all groups. Adult mentors, in addition to interacting with the students in the after-school program, also supervised the student's community service projects, interfacing with library staff as well as staff at other locations.



The program has expanded each year and now includes three school districts. Each school offers 4-H Web Wizards basics for beginning groups, and advanced skill levels for the students who complete basics. In the advanced classes, students learn hypertext mark-up language (HTML), more complex web page construction, as well as advanced training including engineering principles of setting up a community lab, managing video servers, digital video production, non-linear editing, and publishing streaming video content.

### **Goals for Youth Participants**

As a result of the Three Valley's process, a number of goals were developed for the 4-H Web Wizards' youth. They include:

1. Increased school retention and graduation rate;
2. Increased problem-solving and goal setting skills and abilities;
3. Increased work skills providing youth a means to contribute to household income;
4. Increased commitment to life-long learning and community service;
5. Increased positive sense of self;
6. Increased strength in cultural identity and intercultural leadership competencies;
7. Decreased rates of delinquent and at-risk behaviors; and
8. Increased strength of intergenerational relationships.

### **Expected Outcomes from 4-H Web Wizards**

Beginning 4-H Web Wizards (basic level) have two expectations to fulfill as they work in the program: design and publish web sites and give back to the community through community service.

1. Students learn to work with a local business as they design and build a web page that is effective for that business. They also learn about marketing, timelines, writing contracts, and budgets.
2. Students volunteer 15 hours each level they complete, helping library and cultural center patrons use the computer and web.

Once the basic program is completed, students are eligible to apply for advanced 4-H Web Wizard courses. In advanced Web Wizards, students identify particular individual interests to pursue as well as group projects. Students learn animation, video production, computer graphics, and other high-end technologies.

## **Technology Component**

The technology component of the 4-H Web Wizard curriculum is designed to teach basic computer literacy, the impact of technology and power of the Internet, web page design/production, and emerging technologies. In order to benefit from the curriculum, students and mentors must have access to the technology in a group setting. School districts have made their computer labs available during after-school hours between 2:40 and 5:00 in the afternoon, two days a week, while school is in session.

As most students do not have access to computers at home, and the libraries have long lines of patrons wanting to use existing computer resources, Intel provided \$250,000 in funds to construct and equip two community computer labs and to increase the number of library computers. This increase of infrastructure was intended to ease bottlenecks and allow students and community members access computers and technology on weekends, evenings, and vacation times. Grant funding for additional computer resources ensured that students participating in the program had viable, accessible locations for practicing their skills and pursuing individualized or self-paced learning at advanced skill levels.

Internet technology allows specialists from any workplace location to interact with students at remote locations. Using multi-model methodologies such as streaming video and PDF files, expertise is shared with communities in remote locations. It is also planned that students will teach and share their areas of specialized interest with other students at remote locations on a high school to high school basis (Rogers, 1995).

Through the 4-H Web Wizards program, grant money is invested in communities, allowing the students to train community members, and technology is made accessible to the student's communities and to a wider audience. Cultural competence research specific to, but not restricted to Latino populations, indicates the necessity of reaching whole family groups in order to obtain sustainable attitudinal and behavioral impact on the students (DeNeve, Condon 1975-97). The Web Wizards students are visible socially and gain experience themselves as a community resource, in the process engaging and developing leadership skills (Tajfel, 1982). This is in contrast to feeling invisible or a part of a statistical "need" category.

## **Program Successes**

Since its inception in the spring of 1999, the 4-H Web Wizards program has experienced phenomenal success and has become a national model for USDA and 4-H programs. These successes fall into four categories: grants, volunteers from high tech industry, community collaborations for sustainability, and youth. Program successes in each of the categories include:

## **Grants**

Resources are the lifeblood of any project. The 4-H Web Wizards program is no exception. While the resource base has been robust from the beginning, because of the interest in providing high technology educational opportunities for an underserved audience, success over the past three years have drawn even more dollars to the project.

- 2001: \$125,000 in grants from Intel and IBM to Washington County 4-H for a summer camp portable computer lab, video servers, and streaming video curriculum to bring expertise to rural locations.
- 2000: \$52,000 in grants from Intel to 4-H Web Wizards to establish "Puente Digital" Computer lab in Shute Park Library.
- 1999: \$75,000 grant from Intel to 4-H Web Wizards for establishment and support of a community computer lab in Washington County, located at the community center Centro Cultural in Cornelius, Oregon, and an additional six computer stations at local libraries.
- 2001: \$12,000 in grants from Spirit Mountain Foundation for Technology and Culture 4-H Summer Day Camp targeting low-income female, minority and rural elementary youth.
- 1999-2001: Beaverton School District received \$8,000 to support the Web Wizard program with busing teacher advisors.
- 1999-2001: \$17,000 in grants from OSU, and Extension for summer interns to staff summer technology programs.
- 1999-2001: \$8,000 in grants from Washington County 4-H Leaders Association.
- Secured on going resources for sustainability of the 4-H Web Wizard project by institutionalizing all aspects of the program except a partial staff salary.
- 2000-2001: \$3,000 grant from the Oregon Rural Development Council to develop and conduct a Spanish language basic Rural Business On-line Computer and Internet Technology class for low income Latino adults interested in volunteering with Web Wizards.
- 2001: 4-H Web Wizards partner with 4-H in Morrow County to obtain a \$45,000 grant for a community computer lab.
- 2001: 4-H Web Wizards partner with Centro Cultural to win a \$150,000 federal grant to support continuing program development.

## **Volunteers from High Tech Industry**

As with most other 4-H youth development programs, volunteers are key to the success of the 4-H Web Wizards. They not only put "legs" under the program but also add two other critical components – highly specialized technical expertise and the cultural context of the Latino community. As will be noted from the bullets below, the volunteers served in a variety of roles ranging from direct work with youth to work in promotional campaigns.

- Provided highly specialized volunteers contributing over 2,000 hours to mentor more than 60 youth in the 4-H Web Wizard program.
- Provided more than 20 Latino volunteers with technical expertise to develop and deliver bilingual computer curriculum to youth, families, and community members.
- Provided high tech Latino volunteers to participate in Extension advisory groups.
- Provided four high tech Latino participants for the statewide Extension needs assessment.
- Generated volunteer, community, and corporate support for replication and expansion of the 4-H Web Wizard project in Oregon as well as other states. Expansion to rural Oregon is planned for 2002.
- Sent teams of involved volunteers to present to [National Association Extension 4-H Agents](#) (NAE4-HA) and Extension-related (USDA, [Children Youth and Families at Risk](#) (CYFAR) conferences to share ‘key learnings’ regarding working with Latino audiences and involving corporate America in programming.
- Participated in development of national and regional Extension volunteer recruitment videos, 4-H “Make a Difference” volunteer promotional video by Northwest Regional 4-H, “Give” campaign by KGW Northwest Channel 8 (NBC affiliate), and the “How the West Will Win” film by New Mexico State University in 2001.

## Community Collaborations for Sustainability

Sustainability is an important factor in any human service or educational program. Local communities often articulate that they want nothing to do with “now you see it, now you don’t” programming. As a result, the 4-H Web Wizards program was created with an exceptionally broad base of community participation and support. Schools, libraries, non-profit organizations and private industry partners have all taken part in the planning and implementing of the program. The following bullets give a flavor of the collaborators and how they have contributed.

- Community Partners: Beaverton City Library, Cornelius City Library, Forest Grove Library, Centro Cultural, Forest Grove High School, Forest Grove Chamber of Commerce, Neil Armstrong Middle School, Sunset High School, Meadow Park Middle School, Capital Center High School, [Oregon State University Extension Service 4-H Washington County](#), [Washington County 4-H Leaders Assn.](#), Intel Latino Network (ILN), Intel Community Involved employee volunteers, Intel Corporation Oregon, City of Hillsboro, Hillsboro Shute Park Library, Hillsboro High School, PCC Family Literacy, and Hillsboro Senior Center.
- Technology and grant investments have attracted additional volunteer talent at all levels by allowing volunteers to receive training and then present specialized information via technology.
- Grant dollars and supervising volunteers have allowed participating youth to train community members, making technology accessible to the various social/cultural communities and to a wider audience in Washington County.
- Web Wizard-fostered community computer labs have also provided opportunity for Extension faculty in other disciplines, as well as local community college faculty and social service agency personnel, to utilize the technology for program development and delivery to new audiences.

- Adult Latino audiences are learning about e-commerce (small business), family literacy, nutrition and health, and domestic violence prevention.
- Over 1,200 community members have accessed computers and the Internet through use of these technologies at participating community sites.

## Youth

Impact on youth is really the critical indication of 4-H programmatic success. In the case of the Washington County 4-H Web Wizards, there is hard evidence that participating youth are benefiting from the program. Some of the successes include:

- Of 90 youth involved, 74 have experienced an improvement in their high school GPA.
- Of 90 youth participants selected to participate, only three have left high school before graduating compared to a school district 30% dropout rate for Latino students. One student dropping out of school returned when informed that the only way to participate in 4-H Web Wizards was to be enrolled in school and to be making progress toward graduation.
- 100% of participating students display an interest in finishing high school and pursuing post high-school education.
- 100% of seniors graduating in the first class of 4-H Web Wizards are pursuing higher education in computer and technology related fields and have received substantial (\$14-40K each) scholarships.
- Students credit their mentors and their experience in the 4-H Web Wizard project as the single most important reason they decided to pursue higher education and dream of a brighter future.
- 4-H Web Wizards were selected to participate in the launch of a national USDA initiative, [CyberSeniors/CyberTeens](#), where youth help senior citizens learn about technology.
- 4-H Web Wizards developed an award winning, bilingual website in partnership with Public Broadcasting Corporation (PBS). Click on the following link to see results of their work: <http://www.pbs.org/opb/conquistadors/>.
- 4-H Web Wizards developed and published the web site for the Cooperative Public Agencies of Washington County (<http://www.cpawc.org>).
- 90% of students and mentors starting with 4-H Web Wizards continue with the program, including students having graduated high school but living and attending college in the area.
- 100% of students who had not previously taken computer/technology courses in high school enrolled in computer/technology courses as a direct result of participating in the program.
- Seven students were selected to present a workshop at the national [CYFAR](#) conference in North Carolina (650 university, USDA, and state program leaders participated) in March 2000, and were evaluated as the top conference presentation.
- Five students were selected to represent the state of Oregon as the Oregon delegation at the [National 4-H Technology conference](#) in Washington D.C. in July 2000.

- One student was selected (one of 12 high school students nationally), to serve on the National 4-H Youth Technology Leadership Team in 2001.
- One student was selected (one of five high school students nationally), to serve on the National 4-H Leadership Design Team.
- Three students have been selected to present workshops at the [2002 National CYFAR conference in New Orleans](#).
- 15 youth are learning streaming video production to develop 4-H public service announcements for the Internet as well as television, and to stream Bilingual Web Wizard curriculum and workshops on the Internet for youth in remote Oregon and other U.S. locations.

## State and National Recognition

Another indicator of success is program recognition. The 4-H Web Wizards program has been recognized locally, on a statewide basis, and nationally. Some of the recognition includes:

- Because of demonstrated support and commitment to positive youth development through the 4-H Web Wizard project, support of the Extension service in Washington County and statewide, and for their equally impressive commitment, funding, and support of Washington County K-12 education, Washington County 4-H nominees Intel Corporation and the Intel Latino Network (ILN), were awarded the [OSU Extension Service](#) Cooperator of the Year Award in the year 2000.
- 4-H Web Wizards was featured in information and success stories prepared for Oregon Legislative Packets during the last legislative session.
- 4-H Web Wizards named as one of five pilot test sites for a new national 4-H Web Cast initiative.
- 4-H Web Wizards named as a partner for a national oral history project in collaboration with the USDA, Veterans Administration, Library of Congress, National Archives, National Institutes of Health, AARP, and National Retired Teachers Association.
- 4-H Web Wizards named as participant in proposed “Portraits of Oregon” history project.
- 4-H Web Wizards recipient of NAE4-HA Diversity Award.
- 4-H Web Wizards project is the only Oregon program featured in Intel Corporation 2001 Annual Report.

## Conclusions

The 4-H Web Wizards program is an example of applying time-tested Extension methods to teach new technologies to new audiences. Program planning was accomplished with extensive input from the community. Content was developed to address articulated needs, Community partners were identified and recruited to create support and sustainability. Volunteers recruited and trained to help deliver program. Finally, families were incorporated into the program structure. The net result is a program that:

- Provides an after-school media, computer, and Internet technology program responding to the requests made by the students.

- Partners with the business, school districts, local non-profits, libraries, students, and volunteers to ensure sustainability.
- Uses culturally appropriate methodologies to recruit and retain youth, adult, and family participants.
- Provides Latino mentors for Latino youth who teach computer and positive life skills while being positive role models.
- Uses a small group mentoring method supporting youth with a cadre of caring adults while allowing individual mentors flexibility in scheduling to accommodate workplace demands.

Most important, however, is the impact on the youth. Instead of following the established pattern in their culture and community of dropping out of school, participants stayed in school, improved their academic performance, are looking forward to higher education. Those opting for higher education are having success in finding substantial financial resources to reach their educational goals. The 4-H Web Wizards have truly crossed the Digital Divide and are on the road to success.

## References

- Bennett, M. (1993). Towards a developmental model of intercultural sensitivity. In Paige, R.M., (ed.) Education for the intercultural experience. 2<sup>nd</sup> ed. Yarmouth, ME: Intercultural Press.
- Condon, J. and Yousef, F. (1975). An introduction to intercultural communication. Indianapolis: Bobbs Merrill.
- Condon, J. (1985). Good Neighbors: Communicating with the Mexicans. Yarmouth, ME: Intercultural Press.
- DeNeve, C., & Condon, J. (1997). A kaleidoscope of Hispanic cultures: Issues in intercultural communication. Unpublished manuscript.
- Dugan, M. (1994). Making the connection: Peace studies and conflict transformation. Unpublished manuscript. Harrisonburg, VA. Eastern Mennonite University.
- Kluckhohn, F. & Strodtbeck, F. (1961). Variations in value orientations. Evanston, Illinois: Row, Peterson and Co.
- Lederach, J.P. (1986). Mediation in North America: An examination of the profession's cultural premises. Comprehensive examination paper. Sociology Department, University of Colorado.
- Lederach, J.P. (1988). Of nets, nails and problemas: A folk vision of conflict in Central America. Doctoral dissertation. University of Colorado.
- Lederach, J.P. (1995). Preparing for peace: Conflict transformation across cultures. New York: Syracuse University Press.
- Lederach, J.P. (1997). Building peace: Sustainable reconciliation in divided societies. Washington, D.C.: U.S. Institute of Peace Press.
- Rogers, E. (1995). Diffusion of innovations. 4<sup>th</sup> ed. New York: The Free Press.
- Rowland, V. (1990). Volunteer time. *Journal of Extension*, [On-line] 28(3) Available at <http://www.joe.org/joe/1990fall/a8.html>.
- Tajfel, H. (1982). Social identity and intergroup relations. Cambridge: Cambridge University Press.

Weisbord, M.R. (1992). *Discovering common ground: How future search conferences bring people together to achieve breakthrough innovation, empowerment, shared vision, and collaborative action*. San Francisco: Berrett-Koehler.