



Project Report:

How the Bike to School Project brought bicycles to students with complex barriers

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CultureLink Settlement and Community Services, Toronto, ON



About CultureLink

CultureLink is an agency serving newcomers to Canada and other marginalized community members. Beginning in 2010, CultureLink began to encourage cycling among its newcomer clients. That project brought CultureLink “Cycling Educators” to a growing number of secondary and elementary schools. Alongside key partners Cycle Toronto and the Toronto Cycling Think and Do Tank, CultureLink scaled up to offer Bike to School programs to over 45,000 students from 2016-2020. The work within schools was governed by a formal partnership agreement with the Toronto District School Board and supported by funding from the Ontario Trillium Foundation (OTF).

One school’s participation in the Bike to School Project stood out – a secondary school serving students with complex barriers, including Mild Intellectual Disability, Autism and Learning Disability. CultureLink secured additional funding from OTF to offer a pilot program at this school during the 2019-2020 school year. Based on the pilot, a Cycling Educator’s Guide was designed for teaching students with complex barriers to learning. The Guide was tested in 2021 at the same school and refined in late 2021.

About the partner school

Many students at the school are from low-income families with their parents often having low levels of educational attainment. These factors impact physical activity and social connectedness. In the school’s 2017 Student Census, 50% of students report that they never or rarely exercise. 60% have never participated in a sports program outside of school; 64% have never participated in community recreation activities. 46% say they never or almost never spend time with friends.

Bicycle riding is a popular leisure activity for children and youth, with many interconnected benefits. However, people with disabilities often do not have the opportunity to learn. The school had welcomed CultureLink annually to offer cycling-related programming, and the school administration and teaching staff were enthusiastic about involving CultureLink staff in the classroom.

Project goals

Overall, CultureLink strove to support physical activity through cycling education programming that was safe and enjoyable for students with Mild Intellectual Disability, Autism and Learning Disabilities.

CultureLink worked within the school to give students an opportunity to learn to ride a bicycle, carry out safety checks on a bicycle, and begin to learn how to navigate city streets.

With this project, CultureLink sought to learn how best to teach cycling skills to students with barriers to learning and to understand the impact of the cycling program on students and the school community.

A Cycling Educator’s Guide was developed for Educators working with students experiencing barriers to learning. The Guide provides lessons to help these students learn to ride a bicycle safely and thereby foster greater levels of physical activity in school and potentially outside the school. The Guide also highlights various teaching methods to help the students succeed in the program.



Project Reach and Activities

The program launched in September 2019. CultureLink and a local partner, the South Riverdale Community Health Centre, moved bicycles and helmets to the school for students to use; these were stored in an unused student change room in the basement of the building.

From September to November, the project engaged close to 60 unique students, beginning with a module of bicycle riding skills training in fall 2019. These were mainly carried out in the context of Health and Physical Education classes, in the gym, in the schoolyard and at a neighbouring school. From December through February, 28 students completed one module about bicycle safety checks, and 26 students completed one module of road safety and community navigation training. A lunchtime “Bike Club” met three times to practice riding skills in the school cafeteria.

“Our School Trustee looked at the program and was very impressed, same with our school superintendent and local liaison police officers, they were all very impressed.” – School Principal

The COVID-19 pandemic shut down schools for in-person learning in March 2020. It was impossible to complete the planned second module of bicycle riding skills training, or the planned community ride and community service activity (e.g., “fit-a-flat” or safety information table at a community event). This was terribly disappointing for everyone involved. During this pilot period, project staff completed a Draft Training Guide and assessment tools, collected survey data from teaching staff, carried out a focus group with students who had participated, and interviewed teaching staff and administration.

About the project evaluation

With the rollout of vaccinations, the impact of the pandemic abated in fall 2021. The school was eager to welcome back project personnel, to offer more opportunities to students. CultureLink engaged an outside consultant, Paul Young from Public Space Workshop who worked with two experienced Cycling Educators to use and evaluate the Draft Guide. The consultant is a health promoter from the local

community, with related professional experience and a passion for active transportation. They offered another module of five bicycle riding skills classes and tested the Draft Training Guide and assessment tools which CultureLink had developed during the fall 2020 pilot.

While testing the Draft Training Guide, the consultant and educators observed student behavior and skills development during the programs. The consultant and educators met after each class to debrief and make note of any helpful additions or changes to the Draft Guide. These observations, along with recordings and notes from the focus groups and interviews, were the basis for the “key findings” reported below.



These findings were discussed with school staff and students at a meeting in December 2021. They were then incorporated into the Draft Guide. The updated Guide was then formatted, and images were added to make it easier for the Cycling Educators to use.

Key findings

Fall 2021 Program Evaluation Summary

During the first round of the program (fall 2020), a Draft Guide and a Student Assessment Tool were developed. In the fall of 2021, the evaluators (Paul Young and two Cycling Educators) tested out the materials at the same school where the fall 2020 pilot was done. They ran two classes of 18 students in the morning and 14 students in the afternoon. Students attended 5 lessons in total. Each lesson was approximately 75 minutes.

It should be noted that classes went beyond 75 minutes in lessons 4 and 5 because these have more content and riding. This was possible due to the doubling of class time during Covid. When classes return to a 75-minute limit, it would be ideal to find additional time for sessions 4 and 5, perhaps during a lunch time “bike club”. An additional 30 minutes is required to get equipment set up before the lesson and put away after the lesson.

The Training Guide contains a compact set of five lessons covering the basics of cycling safety.

1. Lesson #1: Helmet Fit & Bike Fit
2. Lesson #2: ABC Checks; Stationary & Handling Skills
3. Lesson #3: Balance & Coast; Start, Pedal, Steer, Brake
4. Lesson #4: Straight Line Riding, Brake Control; Shoulder Check & Signal 1
5. Lesson #5: Shoulder Check & Signal 2; Turning; Controlled Group Ride

It also contains a Bicycle Skills Assessment chart to evaluate each student's progress.

The updated Guide now has an additional section outlining "what is different" when teaching students with unique barriers to learning.

To what extent are students' skills improved through the program?

Students came to the class with a wide spectrum of cycling experiences and skill levels. About 25% were just beginning to learn (or re-learn) how to ride or had not ridden. About 25% were very comfortable balancing and riding. About 50% had ridden at some point but needed basic bicycle safety training, improved handling skills and an introduction to rules of the road.



The helmet fitting, bicycle fitting and safety check lessons were easy to learn but appeared to be new for all the students. By the end, they were all able to do these on their own when asked.

By the end of the 5 sessions most of the students were demonstrating good bicycle handling skills, signalling, shoulder checking and could ride in a group at a school running track. A small number (roughly 2 out of 25) were just comfortable sitting, coasting, and steering but not yet riding.

As the program progressed, students showed more confidence and enjoyment especially during the group riding where they could demonstrate their new skills. At the final debrief with students, several enthusiastically expressed pride in their accomplishments - attributing this to, as one student said, "Practice, practice, practice!"

"The project helps us understand the internal emotional life of a kid. Many never had an opportunity to ride a bike. They are scared of it, worried about what they would look like. You could see the pride." - School Principal

To what extent does the program increase cycling and physical activity, inside and outside of school?

When asked, all students indicated they would like to learn more regardless of where they left off. And most of the students indicated they will bike more outside of school. While it was not possible to more accurately assess if their levels of physical activity would go up, the students did express a commitment to doing more cycling given the opportunity. An assessment of supports in the home could help determine any increase in future cycling outside of school (i.e., supports such as the presence of a bicycle or the parent's capacity to cycle).



What teaching strategies and learning aids are most effective?

The following subsections describe the effectiveness of different learning strategies and aids that were piloted in 2020 and then evaluated in the fall of 2021

Shared Learnings

One of the most significant outcomes of this project was the building of new relationships in the special education sector and the resulting learnings gained from this project. Teachers, students and administrators shared a wealth of knowledge with CultureLink and the program evaluators to help address unique learning barriers and ensure student success. And CultureLink demonstrated the transformative power of a learn-to-ride program supported by caring educators and teachers.

“I have never seen the kids so happy! I will remember the smile on kids faces when they realized they were doing it themselves.” – School Principal

An Updated Cycling Educator’s Guide

The *Draft* Guide was completed during the fall 2020 pilot. The Draft Guide was essential in shaping the lessons and structuring the classes for the fall 2021 evaluation. Based on interviews and observations in the 2020 pilot and the 2021 evaluation classes, the Guide has been updated. It now has an additional section, “What’s Different: Teaching Cycling Skills in Special Ed. Classes”. The Guide is intended for instructors that are experienced in a more conventional high school setting. It includes a series of considerations for instructors under the following headings:

- *Plan and coordinate closely with the teachers*
- *Riding space and class setting*
- *Lesson planning*
- *Orient the students*
- *Clarify expectations*
- *Maintain focus and attention*



The update guide has more abbreviated lesson plans based on the assumption that Cycling Educators will have

experience with the basic material (helmet fitting, ABC Check, etc.) but will need to know more about how to tailor these units for students with barriers to learning. As recommended, lessons should be tightly planned with little unstructured time in between activities. The one-page “*Lesson Plan*” now has a larger font and could be placed on the floor as a quick reference tool during the class. And an abbreviated “*Lesson Sample Script*” now supplements the “*Lesson Plan*” with ideas and details for exercises and games.

Pictorial Descriptions Added

The updated Guide has added pictures for instructors to help students understand what the program contains and which class they are in at the moment. The pictures also help students understand the class sequencing and building of skills. Students really want to ride right away. Using the simple diagrams, Educators can point out “If” we do this “Then” we move to this.



Other Materials

Exercise sheets were not incorporated into the fall 2021 lessons. The educators could not fit them into the time allocated to the program. The setting was a gymnasium and not well suited to desk work. Teachers, when asked if the worksheets might be helpful for students that are sitting out, responded that the worksheets were not really needed. References to work sheets will be included in the Guide should future Educators find a place to use them (e.g., if class time or overall program is longer).

Student Assessment

The *Bicycle Skills Assessment* chart was drafted to measure student success. However, it was difficult to incorporate it into the fall 2021 classes. The classes were roughly an hour and fifteen minutes and there was little time for one-on-one assessment at the level of detail outlined in the chart. Assessing the students was more of an informal process of observation and intervention. Typically, all the students progressed through the lessons while a few students had difficulty. Just by watching, it became clear which students would benefit from more one-on-one time with an Educator.



To incorporate the Assessment Chart, it would require an additional dedicated Educator to meet individually with each student (perhaps near the end of each lesson) to regularly complete an assessment. In terms of measuring success, the Educators found that most students had retained the five lessons by the end except for a few students who had unique barriers. Educators made efforts to work individually with them to bring them up to their individual potential (which in some cases peaked at balancing, steering and coasting). By these measures, each student improved. The wrap-up focus group with students indicated they all wanted to ride more regardless of where they were at individually.

“The bonding they had through the shared experience of riding, the freedom they found in the movement of riding, the break from their normal school routine, the responsibility of caring for the equipment and helping each other be safe...those are the kinds of things that will stay with them.” – Debra, Cycling Educator & Program Designer

To what extent does the program impact the students’ sense of self-efficacy and physical competence?

The program is compact and unfolds in short, evenly paced lessons. Students are engaged in the lesson at frequent intervals and verbal explanations are minimized in favour of “hands-on” learning. As material is reviewed at the beginning and end of each class, students readily share their new learnings. Participation rates grew as the classes progressed and the students became more comfortable with the standardized format. When asked at the end of the program, students shared their learnings with pride. Students recounted the various learning units, each filling in different lessons learned. Those that had physical challenges riding were encouraged and supported by Educators, teachers and often fellow students. The two students that did not completely master the riding were visibly pleased with their individual progress and were ready to continue should the opportunity come up again.



Recommendations for future programming

A great deal was accomplished over the course of this project. Both students and teachers expressed overwhelming enthusiasm for continuing the program. Drawing from the evaluators experience, the focus groups and interviews, the following are recommendations for future programming:

- 1 *Offer the program on a regular basis to this and other Special Education Schools. During any future sessions, continue to liaise with teachers and administrators to review strategies that best support students with barriers to learning. Any additional learnings or resources can be added to future updates of the Educator's Guide.*
- 2 *Students would benefit from one additional class. They really enjoy the group ride at the end but expressed a desire to do more of that to practice their newly acquired skills and enjoy more riding with classmates.*
- 3 *For any future programming, explore options to get each student a bicycle (even second hand) and a helmet towards the end of the program (e.g., connect with other cycling groups and funders to explore sourcing bicycles and helmets).*
- 4 *For any future programming, include recognition for students at the end of the program (e.g., certificates, medals, bicycles/helmets).*

- 5 *Explore options with the TDSB to establish a "Safe Cycling Village" (permanent or temporary) to provide a car-free setting to learn to ride safely on streets (e.g., Windsor Essex Cycling Village). Image source: SchoolShows.ca*



- 6 *Establish cycling education training units in teaching education programs such as the Ontario Institute for Studies in Education and York University's Faculty of Education. In addition, establish Professional Development training for practicing teachers.*

References

This project is informed by the research of Alisha Witter (“The Determinants of Successful Cycling in Children with Special Needs”, unpublished thesis, McMaster University, 2011) and Janine Halayko (“You Can Ride Too! An Exploration of the Guided Discovery of Two-wheeled Cycling Skills by Youth with Intellectual Disabilities”, unpublished thesis, University of Alberta, 2014).

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Photos: Paul Young - Public Space Workshop (unless noted otherwise)

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