



Nomination for Premier's Award
for Innovation and Excellence in Education:

The Da Vinci Project in Prairie Spirit School Division
students benefiting from authentic, real world learning opportunities

Goal of the program:

The purpose of the Da Vinci Project is to provide authentic, real world learning opportunities for students and to assist them with the transition to post-secondary education and to a career.

The focus of this philosophy is creating conditions for engaged student learning.

Prairie Spirit School Division

Prairie Spirit School Division is the progressive rural and urban school division surrounding the City of Saskatoon. Prairie Spirit covers a wide geographic area, north to Leask, south to Hanley, east to Colonsay and west to Perdue. The school division includes nine Hutterite colonies and two First Nations communities. Prairie Spirit includes towns, villages and the new cities of Warman and Martensville.

The Division's 10,600 students are served by a team of over 1,300 dedicated professionals and support staff. Led by our dedicated staff, our students are achieving at high levels and our graduation rates are among the highest in the province.

Board Chair:	Larry Pavloff
Director of Education:	John Kuzbik
Vision:	Learners for Life
Mission:	Learning without limits in a world of possibilities

Connecting hands, hearts and minds:

The Da Vinci Project in Prairie Spirit School Division

Vision: *Connecting hands, hearts and minds*

Mission: *We will provide authentic, real world learning opportunities for students of Prairie Spirit School Division, in order to assist students with the transition to University, technical colleges and to a career.*

In Prairie Spirit School Division, we believe that students benefit from authentic, real world learning opportunities that assist in the transition to life after high school. This belief is reflected in the Da Vinci Project in Prairie Spirit School Division.

The philosophy of the Da Vinci Project grew from the Prairie Spirit Board of Education's strategic plan and beliefs about desirable conditions to facilitate learning. The project was named after Leonardo da Vinci, a self-taught individual and the master of a variety of trades. The name Da Vinci is recognized as belonging to a man who was a gifted and creative thinker of the Renaissance period. It is no wonder that educators have sought to provide conditions for learning that would develop these qualities in the learner.

The "renaissance" implied in the Da Vinci Project literally means "rebirth". Our rebirth of learning is intended to enhance the quality of the learning experience and motivate all students to develop the "unquenchable curiosity" and thirst for life-long learning that Da Vinci himself possessed.

The goal is that students will graduate with the knowledge, values and skills that will enable them to live a meaningful learning-filled life.

In the spring of 2012, Prairie Spirit School Division began exploring opportunities for our students to be engaged in real world, authentic learning experiences. The vision was that all students would be able to connect their theoretical-based learning with real world application. For example, students in Math would apply the theory of geometry in an actual workplace setting.

The vision also included the ability for students to work towards high school credits while at the same time acquiring other post-secondary credits. We believe learning is enhanced by situating knowledge within relevant real world contexts.

The cornerstones of the Da Vinci Project are described in Prairie Spirit's *Targets for Engaged Learning* document and well supported by research:

Rigour- Learners find inquiry, problem-based and exploratory learning more challenging and more engaging.

Relevance- Learners ask their learning to be applicable to real-life scenarios whenever possible as opposed to being theoretical and text-based.

Relationships- Today's learners are intensely social and interactive and respectful relationships are essential to improve a learner's engagement.

Assessment- Learners require ongoing frequent and descriptive (not evaluative) feedback that helps move them toward clear learning targets.

Da Vinci Project in action

The Da Vinci Project began in the fall of 2013 at Walter W. Brown School in Langham, with a focus on construction.

In Langham, the Da Vinci Project involves high school students constructing four modular housing units in partnership with Habitat for Humanity - Saskatoon. In addition to the valuable work experience, students earned high school credits (Construction 10/20/30 and Career and Work Experience 20/30), as well as logging apprenticeship hours for future journey-person work.

Students were also involved in preparing the site for the housing units and received training in foundation preparation. They were involved in the project from the very beginning until the units were installed at the lot in Saskatoon.

Swinging a hammer and putting up rafters is a big change from learning in a regular classroom. The students in Grades 10 through 12 call this opportunity “awesome” and “amazing”. Now that the first housing units are completed, students are working on units for another lot in Saskatoon.

In addition to the construction on the housing units, approximately 25 middle years students from Langham have been building sheds for Habitat clients and dog houses for the Habitat Re-Store.

The construction project at Walter W. Brown School also expanded partnerships with local businesses in Langham who saw the value in the program and contributed material and labor to develop the work site, tools and equipment.

The project at Walter W. Brown School has been profiled in an online blog:

<http://blogs.spiritsd.ca/davinci/>

Evidence of improved student achievement

In April 2015, the senior high school students involved in the Da Vinci Project at Walter W. Brown School were surveyed about this innovative learning opportunity:

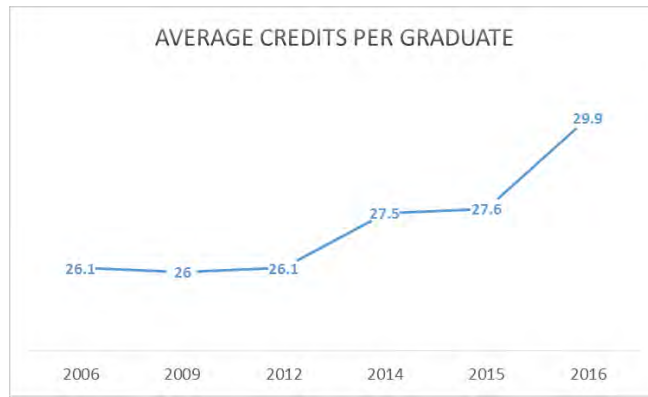
- 100% of students indicated they were engaged in the course.
- 96% of students said they would recommend this course to other students.
- In articulating the top five outcomes for the course, students reported:
 - Prepare you for entering an apprenticeship for a trade
 - Prepare you for the workforce
 - Enhance your ability to use tools and equipment
 - Learn a variety of skills
 - Gain certification training courses

Students have mentioned the adherence to professional industry standards. If the standards were not achieved through industry inspections, the students' work would be taken apart and redone until the appropriate standard was achieved. Students have learned to have an unwavering commitment to do whatever is necessary to pass the quality test.

Graduating students are earning an increasing number of credits, due in part to the opportunities being made available to them at Walter W. Brown School.

Graduation rates are strong at Walter W. Brown School and have been increasing since the Da Vinci Project was introduced.

Student engagement has increased, as reflected in the school's *Tell Them From Me* survey.



Research

Educational research has shown that authentic learning experiences give learners the ability to turn information into useful, transferable knowledge and to build professional identity.

Authentic learning is experiential learning located in real world settings that reflect complex real world problems.

Perceived benefits of authentic learning experiences:

- Encourage learners to assimilate and connect knowledge that is unfamiliar
- Expose learners to different settings, activities and perspectives
- Enhance transferability and application of theoretical knowledge to the “real world”
- Create opportunities for learners to collaborate, produce products and to practice generic (e.g., problem solving) and professional skills
- Build capacity to exercise professional judgments

**Photos from the construction site at
Walter W. Brown School in Langham**



**Interior construction photos and the completed fourplex
at its new location on Avenue S South, Saskatoon**



Criteria for Premier's Award for Innovation and Excellence in Education

Evidence of direct Board influence and participation in the innovation

The philosophy behind the Da Vinci Project in Prairie Spirit has grown from the Board of Education's strategic plan and beliefs about the desirable conditions to facilitate learning. The Prairie Spirit Board of Education supports practical, hands on learning experiences for students.

Over the past several years, the Prairie Spirit Board of Education has been exploring innovative approaches for student learning. The Board is extremely proud of the work of the Da Vinci Project and supports the project through budget planning.

Innovative nature of the program or project

The focus of the philosophy of the Da Vinci Project is on creating conditions for engaged learning for students. For a rural school division, the construction component of this Da Vinci Project represents an innovative approach. In addition, the partnership with Habitat for Humanity is a unique opportunity that benefits both organizations.

This project also expanded partnerships with local businesses that saw the value in the program and contributed material and labor to develop the work site, tools and equipment.

The philosophy behind the Da Vinci Project is also being embraced by teachers in problem-based, inquiry or experiential learning opportunities in a variety of ways throughout the school division.

Sustainability of the innovation within the present system

The partnership with Habitat for Humanity is in place for the next several years. The infrastructure for construction at Walter W. Brown School in Langham has been built and developed and will support future construction projects.

In terms of the philosophy behind the Da Vinci Project, this is sustainable as a new approach to teaching and learning and does not necessarily have a financial impact.

Cost of the innovation related to benefits achieved

The Da Vinci Project's main costs are related to additional staffing required for a construction site. Prairie Spirit must carefully evaluate the costs of all programming to ensure its sustainability.

The costs associated with establishing a building compound in Langham have been shared by the school division and the generosity of local businesses and tradespeople.

The reality is that the philosophy of learning described in Prairie Spirit's *Targets for Engaged Learning* is possible in any system classroom, in any subject area, and can be done with little or no cost.

Client support for the innovation

The Langham students involved in the construction project were surveyed in April 2015. Fully 100% of the senior high school students reported that the relevance of the course matched with their goals for taking the course. Their top five reasons for taking this particular course included:

- Working with their hands
- Being outside
- Learning skills for use at home
- Working with others
- Preference to take more practical courses

Student comments:

- “Being able to jump right into working with my hands was my favourite part of this course.”
- “This affected my involvement in other classes by improving my motivation to go on throughout the day instead of falling asleep.”
- “My favourite part of this course was all the learning. Learning how and where to use different tools, the steps in building a house and also safety courses.”
- “I enjoyed doing hands on work. I like the sense of accomplishment I felt after finishing a project. I liked seeing what I am capable of.”
- “Time flies and makes me actually want to come to school.”
- “I want every class to be like this because here everyone... is glad to go [to class].”
- “I hate school a lot. Every day that we have this class I’m way happier to come to school mostly because I get to do hands on work and be outside. I love that this class is available.”

Evidence of improved student achievement

- Students at Langham’s Walter W. Brown School are graduating at very high rates. It is anticipated that the graduation rate for 2016 will be 100%.
- In addition, students are graduating with an increasing number of credits earned, above the number required for graduation.
- Results of the Tell Them From Me (TTFM) student survey reflect a strong student engagement at Walter W. Brown School.

Students in Da Vinci Project awarded philanthropy award

Walter W. Brown students involved in the Da Vinci Project were awarded the 2014 ***Outstanding Saskatoon Youth in Philanthropy Award***. This honour is awarded to young people who demonstrate outstanding commitment in the area of fundraising, volunteerism and helping others. The award was presented to the students at a special event on National Philanthropy Day, Friday, November 14, 2014, in Saskatoon.

Habitat for Humanity nominated the students because of their passion and commitment to the construction of four modular housing units in partnership with Habitat for Humanity, as part of Prairie Spirit School Division’s Da Vinci Project.

In addition to the valuable work experience they gained as part of the construction project for Habitat for Humanity, these students also earned high school credits as well as apprenticeship hours for future journey person work. The students also learned about the value and importance of being active members of their community.

This was the fourteenth year for the philanthropy award in Saskatoon. National Philanthropy Day was established as an opportunity to recognize the ways philanthropy has made a difference in the community.



*Walter W. Brown School students
with the Executive Director of
Habitat for Humanity Saskatoon*

What research tells us about Relationships: Respectful **relationships** and interactions (both virtual and personal) are essential to improve a learner's engagement. Learners today are intensely social and interactive learners. Those surveyed by Willms, Friesen, and Milton (2009), stated that they want to interact with people, both within and beyond the classroom and school environment.

Relationships	...are thriving when...	Looks like / Sounds Like	Connections...
Risk Taking	All students feel safe to participate in class by asking questions and seeking help. They feel safe to wonder and seek assistance. <input type="text" value="4 3 2 1"/>	Students are actively asking questions that matter to them. They are helping each other to explore and learn. You can see it in the support students offer for each other as they work together on a project or a problem.	"...try something at which you are terrible, and insist that your students celebrate your willingness to try. I do this by using an old guitar to play a horrible rendition of "Happy Birthday." Let me be clear: I am absolutely awful, and it is a humiliating experience. But my students love it." <i>Click to read more...</i>
Student Voice and Teacher Voice	The majority of the learning is driven by conversations: between students and between student(s) and teacher. Teacher talk to the whole class is 10-15% of class time. <input type="text" value="4 3 2 1"/>	There is movement, chatter, discussion, disagreement, focused on a learning target. All voices are honored equally. The students learn from each other by collaborating with each other. The teacher is circulating around the room sitting side by side with students and learning.	"She would thrive after being asked: "What do you want to learn?" "What do you want to read?" "What matters to you?" And then taking her answers and the curricular outcomes and designing a learning plan..." <i>Click to read more...</i>
Student Learning Goals	All of the students have shared their learning goals and academic interests. <input type="text" value="4 3 2 1"/>	Students speak knowledgably about the class learning goals they helped create. Students talk about their own individual learning goals and how they are connected to the targets. They speak about their progress with their goals. They share their thoughts on their plans for next steps.	"I will focus on three areas to improve my learning this semester: organization, persistence and reading. To improve my reading skills..." <i>Click to read more...</i>
Learning Relationships beyond the classroom walls	Students are connecting with experts and peers in the classroom, the school, the local community, and the global community (face to face or virtual). <input type="text" value="4 3 2 1"/>	At times, students may share their stories at a retirement home; or online with a class in a different part of the world. At times, a group of students may be connected online with a Member of Parliament. Or at another time, a group is preparing a blog with their scientific findings and inviting other scientists to comment and add to their findings. These opportunities are connected to a common learning theme that connects them to the big essential course questions.	"You remove the walls. You connect the students to others around the world or within your own community. Connecting your classroom globally or locally isn't as hard as you might think, but it is more important than you can imagine. It isn't about what you're keeping out but about what you're bringing into your classroom..." <i>Click to read more... 1, 2</i>

What research tells us about Rigour: Learners find inquiry-based, problem-based, and exploratory learning more challenging and more engaging (Willms, Friesen, & Milton, 2009; Brown, 2002; Hay, 2000; Oblinger & Oblinger, 2005; Barnes, et al, 2007). Today's learners ask for the opportunity to explore to find solutions and answers for themselves as opposed to taking someone else's word for it as stated by Windham (2005).

Rigour	...are thriving when...	Looks like / Sounds Like	Connections...
<p>Rich and complex tasks</p>	<p>Students are challenged by rich tasks and complex questions that stretch their thinking and require them to analyze information in order to create or produce something that contributes to knowledge.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are absorbed in their activity: it is parallel to a learner being absorbed in play, or a game (on line or face to face) or role playing games. Students are 'in-task' and not just 'on task' and often they want to continue what they are doing beyond the lesson. They do not even realize the lesson has ended as they are in the 'flow' and time has passed by quickly.</p>	<p>"As teachers strive to engage students in the learning process, make the content meaningful, and foster connections among ideas and curriculum, they continually make important decisions. How can teachers best provide students with effective learning experiences?"</p> <p><i>Click to read more...</i></p>
<p>Expectation to share work</p>	<p>Students are expected to make their work public (at times in the classroom and at times outside the classroom) and receive feedback from an authentic audience.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Student learning "leaks" outside of school. A student may frequently choose to continue with their task or project beyond school - in their homes, either with friends or alone. Students are sharing their work with an audience either in the classroom or outside of the classroom. They are making their work public to the world and receiving feedback from the world.</p>	<p>"We know that the world is moving online. We know that publishing student work beyond the classroom encourages authentically engaged kids who create high-quality work. We know that integration of writing and visuals increases cognitive activity. So we need to be publishing more student work online. But where and how?"</p> <p><i>Click to read more...</i></p>
<p>Self guided and directed learning</p>	<p>Students self-direct some of the learning direction, they follow the questions they wonder about. Students find, evaluate, and make decisions about which learning resources they use to find solutions.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are displaying persistence, even in difficulty. They are developing their own solutions rather than following a set procedure demonstrated by the teacher. They believe that they can master the work. Students are deeply engaged because they are confident in their own ability to succeed.</p>	<p>"...you might just see students working together, helping one another, talking through problems or opportunities. One student is working on teen homelessness. Another is working on roller coaster design. Another, on robotics. Someone else is researching the field of storm-chasers. Another, photojournalism..."</p> <p><i>Click to read more...</i></p>

What research tells us about Relevance: One of the most common things mentioned for engaging learners is "relevancy." Learners ask that their subjects and learning apply to real-life scenarios whenever possible as opposed to being theoretical and text-based. Working with authentic problems or community issues engages learners and builds a sense of purpose to the learning experience (Claxton, 2007; Dunleavy & Milton 2009; Willms, Friesen, & Milton, 2009).

Relevancy	...are thriving when...	Looks like / Sounds Like	Connections...
<p>Real Work with Real Application</p>	<p>Students apply their knowledge and skills to find unique solutions for unpredictable "real world" situations, such that an adult working within the discipline/industry, might actually tackle.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are investigating something nebulous, ill-defined, muddy-edged, and multifaceted. You can sense students' drive as they research a problem that's important in the world, one that no one knows exactly what to do about. They begin to think and act like writers, scientists, engineers, historians etc. Students are doing field work, labs, interviews, studio work, construction, etc.</p>	<p>"In authentic problem-based/service learning, you never quite know what's coming up next. You never know what issues the students are going to run into, or if they're going to meet the challenge. Or if they're going to meet the challenge in a way that you hadn't expected!"</p> <p><i>Click to read more...</i></p>
<p>Essential Questions</p>	<p>The course content begins with the big essential questions and makes connections between their questions, the essential questions, the curriculum and other curriculums.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are not able to answer the essential questions easily or quickly; they are large open ended questions. You'll hear questions: "Where should we look next?" "Where did you find that?" "Are you sure the site you're using is reliable?" "Do the sources agree?" "How does that part of the picture affect the other parts?" "Should we make a new diagram?"</p>	<p>"As a teacher begins planning the school year for a course or the units of the year, he or she should consider the ESSENTIAL questions which give meaning, relevance and definition to the course and the unit."</p> <p><i>Click to read more...</i></p>
<p>Cross Curricular</p>	<p>The course goes beyond one curriculum and extends to other curriculums. The focus is on the broad areas of learning.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are immersed in projects or problems that connect their learning across disciplines. They will see the links between different curriculums. Walking into this classroom one might ask; is this reading or is this science or ELA or Social Studies.</p>	<p>"Messy. Chaotic. Loud. To the untrained eye, these might be the words to describe project-based learning. However, to PBL devotees, these words translate to "engaged, active, and collaborative learning." PBL transforms traditional classrooms into professional environments.</p> <p><i>Click to read more...</i></p>

A walkaway on Quality Assessment: "Quality assessment uses triangulation of evidence and feedback from teachers, parents and students themselves...it gives information for taking next steps, as well as collecting evidence to account for the learning." Davies 2011

Quality Assessments	...are thriving when...	Looks like / Sounds Like	Connections...
<p>Regular Feedback</p>	<p>Students receive individual , timely, ongoing, and descriptive feedback that moves learners forward. They receive feedback from a teacher, a librarian, a peer, admin, parent, someone from another country, or an expert in the field. It is verbal and written comments.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are considering their work in relation to the criteria set out. They are asking questions like; "What they think they learned? What worked? What didn't? What might they do differently next time?" Students give themselves feedback, receive feedback from peers and also from adults.</p>	<p>"When feedback is given immediately after showing proof of learning, the student responds positively and remembers the experience about what is being learned in a confident manner. If we wait too long to give feedback, the moment is lost and the student might not connect the feedback with the action."</p> <p><i>Click to read more...1, 2</i></p>
<p>Differentiation</p>	<p>Assessment is used to create individualized learning goals and differentiated assignments based on collaboration between teacher and student.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students are able to talk about their learning strengths and learning needs. They play an active role along with their teachers in identifying and assessing their individualized learning goals/targets before, during, and after instruction The are making the necessary adjustments made along the way to maximize their individual growth and success.</p>	<p>"The truth is there are many small things you can do that make a great difference for students. It would make a huge difference for most of our kids, if we built in time everyday or two to sit down with a group of 5 or 6 kids and picked their brains to see where they are at, maybe extend something, or re-teach something..."</p> <p><i>Click to read more...</i></p>
<p>Self Assessment and Goal Setting</p>	<p>Students have a clear understanding of the criteria they need in order to achieve the learning targets.</p> <p style="text-align: center;">4 3 2 1</p>	<p>Students can clearly talk about the target or learning goal because it has been shared with them in student friendly language. They know the criteria because they have helped create them. They are asking questions like; "What's working? What isn't? What could work better?" Students are experiencing success because the target remains still and they are able to practice attempts at hitting it.</p>	<p>"Sharing learning targets does not mean merely writing the objective on the board or telling students what the objective is in a sentence or two. Most students will be able to repeat back to the teacher what she said the objective was. What we mean by sharing learning targets and criteria for success, however, is that students comprehend what those objectives mean."</p> <p><i>Click to read more...</i></p>
<p>Reflection</p>	<p>Students reflect on their learning, in collaboration with teachers, other students, and with other 'experts' in the local or global community.</p> <p style="text-align: center;">4 3 2 1</p>	<p>"Students reflections aren't just talking about what they learned fact-wise or wrote in class. They are comfortable taking a look at what they have been doing themselves, examining how they learn things, what's been working for them and what hasn't been working. They are writing, talking about their learning about their learning of information."</p>	<p>"I'm a big believer in getting my students to think about their learning at the end of a lesson, and reflect on how they think it went. Before moving on, I want my students to really consider what they did, why they did this and also take note of their strengths and (areas of growth)."</p> <p><i>Click to read more... 1, 2</i></p>