



Board Meeting Date: 5/15/2023

Title: Programming Update for EVP/SDL/STEAM

Type: Report/Discussion

Presenter(s): Dr. Randy Smasal, Assistant Superintendent; Steven Cullison, EVP Coordinator; Karen Bergman, Countryside Principal; and Jody De St Hubert, Director of Teaching and Learning

Description: Three program updates provided in this report speak to progress on Strategic Initiative A. Advancement of Excellence, Growth and Readiness. The first subpart of this initiative includes the design and delivery of curriculum, instruction and assessment focused on content rigor, critical thinking, student engagement and continuous improvement to assure academic achievement and student growth. The second subpart is to provide a coherent and differentiated educational experience that effectively engages and appropriately challenges every student academically. The report provides data and background to show how the Edina Virtual Pathway Program, the Dual Spanish Language Program and the elementary STEAM programming are enhancing this strategic initiative across the district.

Recommendation: No recommendation is being made at this time. This presentation is an informational update for the board.

Desired Outcome(s) from the Board: Please bring forth questions you have for the presenters.

Attachment(s):

- See attached report

The following board update report is organized into three sections: Edina Virtual Pathway (EVP), Spanish Dual Language (SDL) and elementary STEAM (Science, Technology, Engineering, Art and Mathematics) programming.

The EVP update includes the following sections:

- Background Information
- Success Metrics Discussion
- Financial Expenditures Summary
- Recent Changes to Programming
- Next Steps

Background Information

EVP, like all schools in the district, exists to support the district's Mission and Vision and to further its Strategic Plan. The program uniquely contributes by providing instruction in a different setting and different modality than in-person schools, resulting in:

- Opportunities to advance critical thinking and student engagement in order to appropriately challenge every student (Strategy A, Part 1).
- A differentiated educational experience (Strategy A, Part 2).
- A learning environment that supports equity by eliminating structural barriers to success (Strategy B, Part 3).
- Development of skills for students for healthy lifestyles including living effectively with technology and assured access to wellness programs (Strategy C, Part 3).
- An environment that is conducive to learning (Strategy C, Part 4).
- Responsiveness to enrollment trends while retaining current students (Strategy D, Part 5).
- Strong financial stewardship through careful spending and student retention (Strategy E, Part 5).

EVP at the elementary level is being phased out for the 2023-2024 school year due to insufficient enrollment. EVP does not operate a middle school program due to insufficient interest to operate in a fiscally responsible manner.

EVP serves high school students who can be divided into two groups: comprehensive (full-time online students) and supplemental (EHS students taking one or more online classes alongside their in-person classes). Families of comprehensive students generally opt for online learning out of concern for specific wellness needs for their child, for scheduling flexibility, because in-person learning was not going well, or in order to gain access to an Edina education. Supplemental students predominantly select online classes for scheduling flexibility.

Success Metrics

A number of metrics have been identified in order to evaluate the degree to which the Edina Virtual Pathway is providing a rigorous and engaging learning experience.

1. Retention of learners as monitored through Enrollment patterns.
2. Academic achievement measured using FastBridge assessments, MCAs, grades, and graduation rates.
3. Satisfaction of stakeholders including students, families, and staff.
4. Fiscal responsibility.

These indicators may be viewed as minimum requirements for success and continued viability of EVP; however, the goal is to exceed these expectations and to operate one of the most innovative and rigorous online programs in Minnesota.

Enrollment

The elementary level has averaged about 28 full-time students this year. This represents a drop from the previous year, and is well below expectations. As a result, it was decided at the January 3rd board meeting to phase out the elementary EVP program, with a plan of offering only grades four and five in 2023-2024, assuming at least eight students were enrolled. As of April 6th, enrollment for the upcoming year rested at five students, and thus the decision was made not to offer an online program for elementary students during the 23-24 school year.

The secondary level has averaged 35 full-time (comprehensive students) this year. These students have been split about evenly between residents and open-enrolled students. In addition, 502 EHS students have been enrolled in an EVP course as a supplement to their in-person education. These numbers demonstrate a demand for online learning at Edina among high school-aged students.

Academic Measures

Elementary EVP, in past years, has typically matched in-person sites in academic proficiency as measured by the MCA.

MCA (Elementary):

- 100% of those tested in math were rated as proficient in 2023 [n=9] (District: 76.37%)
- 73.55% of those who tested in reading were rated as proficient in 2023 [n=9] (District: 77.78%).
- 100% of those tested in science were rated as proficient in 2023 [n=1] (District: 66.22%)

FastBridge is an excellent tool for measuring proficiency and progress in EVP because it has higher rates of participation and is administered three times throughout the year. EVP elementary students showed tremendous growth in math.

FastBridge (Elementary):

- aMath: 61% at or exceeding pace in fall (District: 69%); 74% in winter (district 63%); spring testing in progress
- aReading: 83% at or exceeding pace in fall (District: 70%); 80% in winter (District: 83%); spring testing in progress

An important area of growth for EVP at the secondary level is to increase participation rates in standardized testing (a challenge faced by many online programs throughout the state). Rates of participation in the MCA test were too low to provide a meaningful evaluation of student proficiency.

FastBridge was only used at the secondary level for students enrolled in Online Pre-AP English 9 [n=4 in fall and 5 in winter] and students demonstrated tremendous growth:

FastBridge (Secondary Comprehensive):

- aReading: 33% met or exceeded in fall (District: 70%); 50% in winter (District: 83%)

Because of the insufficient data to draw conclusions from the first eight months of standardized testing for secondary EVP, a more instructive data point is grades. Students achieving passing grades in courses will have demonstrated proficiency in the associated graduation standards.

Grades (Secondary):

- Passing grades S1: 85% ; Passing grades S2: 89% (in progress)

Satisfaction of Stakeholders

It is vital that programs incorporate stakeholder voices, and no measurement of Edina Virtual Pathway's progress or success could be complete without asking the students, families, and teachers for their perspectives.

Student satisfaction has been measured in a variety of ways. Panorama was administered to EVP in grades 3-5 (n=22). Student reports exceeded national norms in all areas:

- Supportive relationships: 86%

- Positive feelings: 74%
- Challenging feelings: 67%
- Emotional regulation: 49%

These numbers were slightly lower than the district as a whole, with the exception of challenging feelings, which scored slightly better than the district overall.

Due to a rostering issue with the vendor, EVP's comprehensive secondary students missed the window for Panorama. In April of 2023, however, input was sought from students for planning purposes and a question about satisfaction with online courses was included:

- Supplemental Students Satisfied/Very Satisfied with experience: 83% [n=29]
- Comprehensive Students Satisfied/Very Satisfied: 100% [n=3]

While these positive results reflect the satisfaction of only a small portion of students, surveys provided by individual teachers at the conclusion of the first semester showed high rates of satisfaction as well. 73%-100% of EVP students showed satisfaction with individual courses.

In March of 2023, elementary families were surveyed to determine their level of satisfaction [n=8].

- 75% reported that they agreed or strongly agreed that their child's online education was rigorous.
- 100% reported that they agreed or strongly agreed that their child felt valued in their online class(es).
- 87.5% reported that they agreed or strongly agreed that their teacher communicated clearly with families and was responsive to their needs.
- 87.5% reported that they agreed or strongly agreed that the EVP program communicated clearly with families and was responsive to their needs.
- 100% reported that they were satisfied with their child's online education.

The families of secondary students were asked the same questions in February of 2023 [n=15].

- 78.6% reported that they agreed or strongly agreed that their child's online education was rigorous.
- 78.6% reported that they agreed or strongly agreed that their child felt valued in their online class(es).

- 85.8% reported that they agreed or strongly agreed that their teacher communicated clearly with families and was responsive to their needs.
- 78.6% reported that they agreed or strongly agreed that the EVP program communicated clearly with families and was responsive to their needs.
- 78.6% reported that they were satisfied with their child's online education.

As a means of evaluating the performance of the Edina Virtual Pathway Coordinator, and to help guide allocation of resources, EVP teachers were surveyed once per semester.

First Semester Survey Results [n=13]:

- 84.6% reported that they agreed or mostly agreed that they were provided with the resources to do their work successfully.
- 100% reported that they agreed or mostly agreed that they trust the EVP Coordinator to do what is right for students.
- 100% reported that they agreed or mostly agreed that they trust the EVP Coordinator to do what is right for teachers.

Second Semester Survey Results [n=12]:

- 100% reported that they agreed or mostly agreed that they were provided with the resources to do their work successfully.
- 100% reported that they agreed or mostly agreed that they trust the EVP Coordinator to do what is right for students.
- 100% reported that they agreed or mostly agreed that they trust the EVP Coordinator to do what is right for teachers.

Financial Impact

The adopted budget for 2022-2023 allocated \$826,243 for Edina Virtual Pathway. This was assigned entirely to the elementary program in anticipation of growth in enrollment, rather than the regression that occurred. Even factoring in the costs of the new secondary program, expenditures for EVP will be well-below budget.

- Elementary Revenue Generation: \$281,652
- Elementary Cost: \$319,231
- Elementary Budget Impact: -\$37,579

The elementary program's costs exceeded the revenue generated by its students, though by a smaller amount than originally expected.

- Secondary Revenue Generation: \$424,998

- Secondary Cost: \$253,471
- Secondary Budget Impact: +\$171,527

For purposes of calculating revenue generation for the secondary program, only comprehensive students were used. Though EHS students, when taking online classes through EVP, are enrolled with Edina Virtual Pathway, at this time the revenue for students who primarily attend Edina High School is associated with that site. The secondary program erred heavily on the side of care with its funds, in part because of uncertainty around enrollment potential and also in recognition of the deficit at the elementary level.

- Overall Revenue Generation: \$706,650
- Overall Cost: \$572,701
- Overall EVP Budget Impact: +\$133,949

As a result of a smaller than expected elementary deficit, and careful use of funds at the secondary level, the overall impact of Edina Virtual Pathway on the financial picture of Edina Public Schools was overwhelmingly positive.

Recent Changes

As noted above, the elementary EVP program will be discontinued at the conclusion of this year. Families were notified and supported in the process of determining appropriate placement for the fall of 2023-2024. Edina residents are predominantly returning to in-person learning at their neighborhood schools, with one student taking advantage of a tuition agreement we have with Bloomington to participate in their online program.

The building of a new program at the secondary level provided a wealth of opportunities for adjustments in response to feedback over the course of this year. Significant changes have included:

- Increasing student support staffing to 0.15 social work/504 administration and 0.5 counseling for next year.
- Simplifying the attendance process and making it more uniform.
- Improved absence follow-through.
- Securing permission from EHS to allow supplemental students to work with their teachers during posted office hours and FLEX time and to utilize the tutor center for their online Edina classes.
- Improvements to the enrollment process, including outreach to students to ensure their understanding of the expectations around online coursework and permission from families to take EVP courses.

- Establishment of an Instructional Leadership team composed of licensed staff to inform decision-making.

Next Steps for EVP

In April, a team of stakeholders met to collaborate on a vision for the future of secondary Edina Virtual Pathway. This team included: a parent of comprehensive students (Hodan Hassan); two students (Khalid Omar and Anna Schrag); three teachers (Johnathan Buckley, Mellanie Pusateri, and Mary Stucynski); an EHS counselor (Sandy Schmidt); members of Edina Cabinet (Jody De St. Hubert, Daphne Edwards, and Natasha Monsaas-Daly); school administrators (Andy Beaton and Steven Cullison); and DMTS staff (Matthew Flugum and Isabella Kilabarda.) In order to utilize the wisdom of as many stakeholders as possible, in preparation for this gathering, online students and families were surveyed as well.

The discussion of the above group, coupled with survey data, revealed the following perceived strengths of Edina Virtual Pathway's secondary program:

1. Edina's reliance upon home-grown materials
2. The high level of rigor for online classes
3. Opportunities to learn college-readiness skills
4. Opportunity for students facing unique health needs to participate in Edina courses from home
5. Opportunity for non-Edina residents to gain access to a high quality, Edina education

The following areas of need/opportunities for growth were identified:

1. The current method of attendance collection (daily electronic check-ins) is more burdensome for students and staff than methods used in some other online programs. Additionally, it does not provide as much flexibility for students.
2. The use of EHS teachers helps ensure that online courses align well with their in-person counterparts, but most classes are taught as an overload, on top of a full-schedule of in-person classes. In the long-run, this could result in educators feeling "burned out." Finding ways to build instruction into teacher work days would help address this.
3. There is a demand for online summer programming.
4. Comprehensive EVP students sometimes utilize other providers in order to gain access to a wider range of offerings. Increasing the number of course offerings, gradually, would yield benefits.
5. Students who are new to the country, or the district, often could use more robust support.

6. Communication to families could be richer, more frequent, and provide greater notice in regards to important information.

The following actions are in process or will be undertaken beginning in the summer:

- Consideration of alternative attendance models.
- Increasing EVP staff presence at EHS to aid in attendance intervention, academic support, supervision of online students, support for Student Services, support of online teachers, and improved collaboration with other EHS staff affected by the introduction of EVP.
- Revision and improvement of orientation/intake process for new students.
- Updated marketing materials.
- Development of summer programming for 2024.
- Negotiation of a new MOU which allows for greater flexibility in staff scheduling.
- Additional course offerings for 2023-2024.
- Development of an assessment plan that includes provisions to increase participation rates.
- Development of a style-guide to help increase uniformity between the presentation of course websites.

By the end of the 2023-2024 school year, the following accomplishments will signal a second successful year of EVP at the high school level:

1. Increased passing rates for classes.
 2. Increased rates of satisfaction by stakeholders as reflected by surveys with higher participation rates.
 3. Further improved procedures around course changes and enrollment, indicated in part by feedback from counselors.
 4. Stable comprehensive enrollment numbers despite improved efforts to identify and redirect students who may be less likely to be successful in an online learning environment.
 5. Continued fiscal responsibility while more fully utilizing funds allocated to support student learning.
 6. An increase in the number of courses which are taught as a part of a teacher's regular work day, rather than as an overload, for 2024-2025.
 7. Successful implementation of online summer offerings in 2024.
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Spanish Dual Language Update

This update includes the following sections:

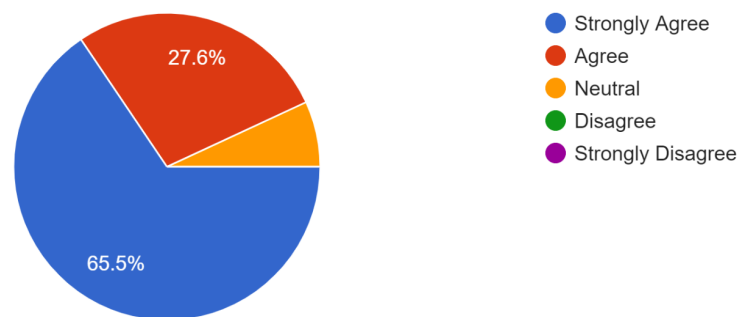
- Success Metrics: Parent/Guardian Survey Results
- Academic Program Planning
- Academic Program Planning Team Members
- Curriculum
- Balanced Language Instruction
 - Dual Language Model
- Next Steps for Spanish Dual Language

Success Metrics: Parent/Guardian Survey Results

One of the important metrics used to assess the effectiveness of the Spanish Dual Language program included parent/guardian feedback. Parents/Guardians were provided an anonymous survey and asked to provide their feedback. An expectation of 80% favorable responses (Strongly Agree/Agree) was set as a minimum threshold for success. The questions from the survey and responses are provided below. The data was collected in April of 2023, with a response rate of 29/48 families or 60.4%.

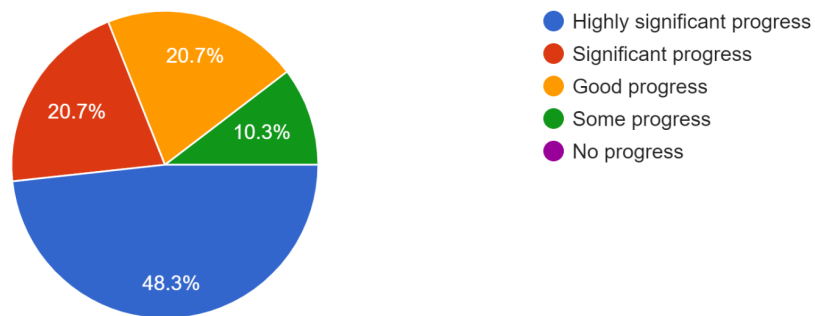
The Spanish Dual Language Program has met my expectations.

29 responses



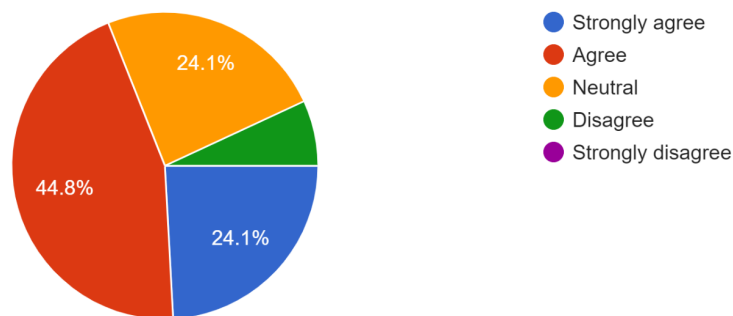
To what degree has your child made progress toward learning a second language?

29 responses



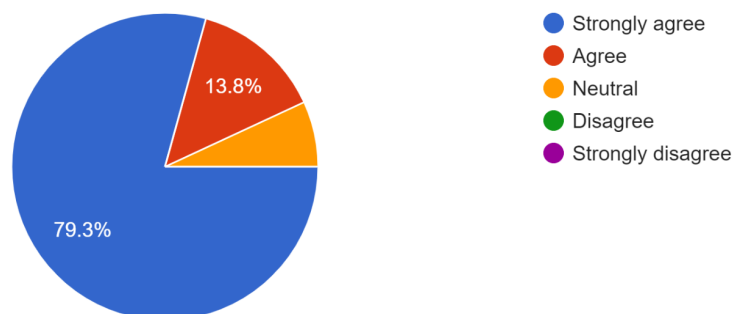
Transportation for the Spanish Dual Language program has met our family's needs.

29 responses



My child's teacher has built a strong relationship with our child.

29 responses



What is the best part of the Spanish Dual Language Program?

- The teachers (17); Teachers are native Spanish speakers (2)
- Learning a new language (6)
- Para support is great (3)

- The culture (3)
- Our child is thriving (3): I had high hopes for our child and those high hopes have been drastically exceeded.
- We trust the curriculum.
- We also trust the feedback we are getting on our child's progress.
- Seeing my child learn a new language and enjoy it!
- The small group work
- Building social relationships, building confidence in abilities, learning to read in both English and Spanish
- Community! Confidence in my child!
- Communication from Principal

What ideas do you have for improving the Spanish Dual Language Program next year?

- Eliminate busing shuttles (4)
- Communicate expectations for homework and expected learning goals/milestones to parents (4)
- Nothing (4)
- More immersion and opportunities to deepen language and cultural skills; including at home (3)
- Kids club enrichment options in Spanish (2)
- Have grade level mixing of kids once back at Countryside (2)
- Program is off to a fantastic start (2)
- Offer more sections of Spanish Dual Language
- Maintain native Spanish speakers as teachers
- More flexible learning environment for kids
- Continue collecting data from all parents, look at big picture
- Update outdoor playground at ELC with age-appropriate equipment.
- How can parents help?
- Add Spanish speaking interns like at Normandale French Immersion
- Use K teachers to help build 1st grade placements
- Can't wait to get into Countryside's building so we can all feel like one school.

Satisfaction of the Kindergarten programming experience was rated high. Feedback and suggestions for continuous improvement will be utilized this summer to plan for enhancements for the 2023-2024 school year. A few changes are already in the planning phases for next year and are described in the next section.

Program Planning

Update on Program Implementation and the Addition of Grade 1:

- **Enrollment:** There are 45 incoming kindergarteners, all resident students, who are enrolled for the fall. As per the preference/waitlist process, we are continuing to hold 3 spots for Spanish home language students who may move into the district between now and August 1. Any remaining open spots will be released to those at the top of the waitlist at that time. There are currently 39 students on the waitlist, with all “screened” students - those with some Spanish language experience - already enrolled. Ten of the 45 enrolled students (22%) indicated Spanish as their home language, with an additional 7 students (15%) who demonstrated a moderate level of proficiency with the Spanish language through a screening process.
- **Policy Revision:** A revision of the addendum to Policy 509 has been submitted for administrative consideration. It outlines the guidelines we will follow for choice programs and specifically the waitlist process for Spanish Dual Language, as it includes the additional component of Spanish home language priority.
- **Staffing:**
 - **Classroom Teachers** - In addition to the two returning kindergarten teachers, the two first grade teachers have been hired and training/planning meetings have begun with the team. The first grade teachers have been supporting the program this year in paraprofessional roles. Their experience with the program and their connection to both staff and students are valuable assets to the overall success of the program. This continuity in staff will create a successful transition as we move the current kindergarteners to grade 1.
 - **Countryside Specialist Teachers** - music, physical education, art and multi-lingual support will continue to serve all four sections of kindergarten and grade 1. Countryside’s master schedule is being revised to incorporate the Spanish Dual Language (SDL) sections when we welcome them to the Countryside building following construction.
 - **Paraprofessional Support** - There continues to be a need to have additional paraprofessional staff assigned to the SDL classrooms to facilitate the navigation of the facility, while also ensuring a high level of safety for students as they are transitioning between spaces, some of which are open to the public.
- **ELC Spaces for Fall:** Two classroom spaces have been identified for grade 1 at the Early Learning Center (ELC). These spaces are connected classrooms, similar to kindergarten, and are within the secured area of the ELC. In preparation for the fall, plans are underway to make adjustments to some of the logistics to better meet the needs of students and staff while at the temporary location. Some adjustments include the pick-up/drop-off locations and how the Countryside and ELC offices partner on attendance procedures.

- **Transportation Plans (including KIDS' Club):** In 22-23 SDL students have utilized a “shuttle” to and from the Early Learning Center, with most students riding buses to Countryside and then transferring to a shuttle that goes to the ELC. The complicated logistics of this process, both for student safety and staff's ability to manage the process, has necessitated a revised plan. The plan for the fall will be to have all Spanish Dual Language students on a separate “route” for pick-up and drop-off, bringing them directly to the ELC - eliminating the need for the shuttle. Routing and schedules will be finalized by the Transportation Department in early August. In addition, we are partnering with KIDS' Club on providing access to programming either on-site at the ELC/ND location or through a separate shuttle specific to KIDS' Club. These adjustments will make a tremendous difference for the day-to-day operations, enhance student safety and create a smoother transition to and from school for our SDL students.
- **Family Engagement:** Throughout the school year there have been intentional efforts to include and engage the SDL students and families in all things Countryside. Some of these include bringing students to Countryside for events such as the Walk-a-thon and Day of Service. All kindergartners have attended field trips together and will participate in our upcoming Field Day. Parents are included in all building level communications and included in our Countryside PTO. In addition, specialized communications related specifically to SDL have been provided all year. A small focus group was invited to offer feedback and plan for a parent meeting for the current kindergarten families that occurred on April 3. This session was a wonderful opportunity for current SDL parents to ask questions, get information and learn about future planning for the program. It was fun to give a tour of the first grade spaces for the fall, which provided a level of familiarity and comfort as their students transition to another temporary space.

Academic Program Planning: Planning team engagement on clarity of purpose

A program planning team has been meeting since February 2023 in order to outline a comprehensive needs assessment for Countryside Spanish Dual Language programming. The team has outlined a draft purpose statement with a focused goal that Countryside Spanish Dual Language achieves high levels of bilingualism and academic achievement while fostering the social consciousness and belonging for the dual language community. Countryside Spanish Dual Language students will be bilingual, biliterate, and bicultural. A critical program focus will be to amplify the academic opportunity for the Edina Latinx community. This will be done by creating opportunities that celebrate the assets and cognitive acceleration for each and every student in the Countryside Spanish Dual Language program.

This draft purpose statement aligns with research cited in previous board reports, as well as new research that the team is studying:

“A two-way dual language program is based on the premise that two groups of students (each with different home languages, in the United States one being English) learn together in a systematic way so that both groups become bilingual and biliterate in the two languages. Two major objectives guide the implementation of two-way dual language immersion programs, namely, (1) having a successful forum for addressing the language and academic needs of English learners, and (2) having an opportunity for other students to gain a world class education that instills the promise of a more interdependent world.”

Kristin Grayson, M.ED., [IDRA Newsletter](#), April 2012

Planning Team

The planning team includes:

Amy Kennedy: Teaching and Learning

Alex Giraldo: Countryside Spanish Dual Language Teacher

Veronica Castellanos-Vasquez: Countryside Spanish Dual Language Teacher

Caroline Linden: Countryside Spanish Dual Language Dean

Karen Bergman: Countryside Spanish Dual Language Principal

*The newly hired 1st Grade Teacher also joined the last planning session.

**The planning team will expand to include the new Director of Equity, Achievement and Multilingual programming.

Aligning with dual immersion research the planning team determined that the five following components must be in place in order to accomplish the Edina Vision and Mission as well as the Countryside Spanish Dual Immersion purpose statement.

1. Curriculum that features bilingualism, biliteracy, and multiculturalism.
2. Clear and positive instruction
3. Balanced language instruction
4. Language usage
5. Professional development

These five components are currently in different places of development. Curriculum has been purchased and a balanced language instruction model has been proposed. The remaining components are outlined in a [5 year draft plan](#) that the planning team will continue to develop and implement.

Curriculum that features bilingualism, biliteracy, and multiculturalism

In the spring of 2022 the Countryside team was fortunate to hire Alex Giraldo as one of

the two Kindergarten teachers. In addition, Profe Giraldo was hired as a consultant with the purpose of leading curriculum development In partnership with Bethany VanOsdel, Assistant Director of Teaching and Learning, and Caroline Linden, Dean of Countryside Elementary, Profe Giraldo engaged in the exploration stage of implementation science to determine material purchases. As Profe Giraldo was engaging in the specific curriculum review process, the Countryside team was able to hire the second Kindergarten teacher, Veronica Castellanos-Vasquez. Profe Catellanos-Vasquez was immediately able to partner on the final materials recommendations and planning stages for implementation.

The curriculum materials purchased for Countryside Spanish Dual Immersion for K-2nd grade are:

Math In Focus *aligned with English curriculum
 American Reading Company (ARC) Core Literacy
 Estrellita Phonemic Awareness
 Mystery Science *aligned with English pilot/initial implementation
 Character Strong SEL *aligned with English pilot/initial implementation
 Social Studies and Health Standards are embedded with literacy, science, and classroom library purchases

Balanced Language Instruction

The planning team has created the following outline which is grounded in research to determine time spent in English and time spent in Spanish:

Dual Language Model (Draft)

K-1-2	90:10 Model	<ul style="list-style-type: none"> • Focus on immersion into the non-dominant language and culture of Spanish. • Focus on language proficiency in speaking, reading, and writing in Spanish. • Teaching through the silabas methodology.
3-4-5	40:60 & 50:50 Model	<ul style="list-style-type: none"> • Building in translanguaging opportunities to foster the bilingual brain. • Explicit instruction in language transfer and foundational skills in English. • Increasing cross-lingusitic opportunities to foster content and academic language.
6-8	Model TBD	

Next Steps for SDL

1. Engage in continued research with consideration of vertical alignment throughout the entire K-12 system.

- a. ACTFL
 - 2. Discuss assessments: WIDA, ACTFL, FAST, NWEA
 - 3. Backwards mapping to 5th grade
 - a. Focus on details for K-2 based on the grade 5 target
 - 4. Refine assessments and progress monitoring practices (to include academic supports/interventions)
 - b. Biliteracy Network
 - c. STAMP
 - d. Normandale alignment
 - 5. Continue research of successful Spanish Dual Immersion Programs
 - e. Eastern Carver
 - f. Nuevas Fronteras
 - g. Richfield
 - 7. Parent Training Opportunities
 - h. Progress- MODEL performance stages
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STEAM Update

The STEAM update includes the following sections:

- Elementary STEAM Design Team Membership
- Vision and Outcomes of STEAM design
- *Integrated STEAM Lesson Checklist*
- *The 5 E Lesson Model*
- *STEAM Development Timeline*

Elementary STEAM Design Team Membership

An elementary STEAM design team (Table 1 below) convened in the spring of 2022 and has been meeting monthly to discuss the design of STEAM programming at the elementary level. The team has developed design elements and expected outcomes for elementary STEAM programming. The team is currently working to construct pilot projects which will be tested in the fall of 2023 as part a piloting process.

Table 1: Elementary STEAM design team members

Role	Member
Classroom Teachers	Allison Knoph, Zach Prowell, Rosemary Rink, Kristy Ardinger, Jeremy Kigin, Heather Kalthoff, Ethan Schultz, Kristi Wenner, Cait Bickel
Media Specialists	Krista Winkel, Ashley Krohn, Venishar Bahr, Laurie Holland, Elizabeth Ortiz Perez, Lynnea West
Specialist Teachers	Shandra Prowell, Jenna Courtney, Sarah Fincham, Leanne French-Amara, Elizabeth Werness
Teaching and Learning Staff	Mark Carlson, Kristen Greene, Jamie Hawkinson, Matt Flugum, Deb Richards
Administration	Dr. Randy Smasal, Dr. Cara Rieckenberg, Jody De St Hubert, Leah Byrd, Dr. Anne Marie Leland
Consultant	Dr. AnnMarie Thomas, University of St. Thomas

Work of the design team in 22-23 included setting goals for a STEAM framework, reviewing of other district programs, auditing what is currently being done, visioning how pathways may originate in elementary programming, and practicing the creation of integrated units of study. The team discussed potential STEAM themes that could emerge at individual elementary schools (example: Highlands Environmental Studies). In addition, the following outcomes were developed as parameters to guide the vision for program development.

Definition: *S.T.E.A.M. is not one program or a particular learning opportunity, rather it is a lens through which we approach holistic, interdisciplinary instruction and learning.*

VISION:

- Edina S.T.E.A.M. incorporates thematic, interdisciplinary and authentic learning experiences supported by powerful collaboration across students, teachers and community partners so that every student can discover their possibilities and thrive.

Outcomes of the STEAM Design

1. Student directed inquiry (driven by creativity, curiosity, and engagement) leads to authentic learning.
2. Each and every student engages in real and relevant interdisciplinary instruction and learning allowing for multiple entry points.
3. Learning environments promote critical thinking while creating numerous opportunities for demonstrating knowledge, skills, and competencies.
4. Widespread collaborations and connections across schools, classrooms, subject areas, and the Edina community, through integrated projects, programs, and pathways.

The team members declared that it will be important to provide a multidisciplinary opportunity for staff to work collaboratively on content creation. Mini-design teams were created that include one classroom teacher, one media specialist, and one specialist teacher across multiple sites. This combination of staff will provide rich thinking for the development of integrated lessons explicitly addressing standards from multiple subject areas. Lastly, the design team reflected on processes and resources needed to allow multidisciplinary teams and content to become the norm in Edina.

The following STEAM design resources and training were provided to the mini-design teams prior to beginning the development of their pilot projects.

Integrated STEAM Lesson Checklist for Pilot Projects

- Focused on cross-curricular standards (a science standard and at least 2 additional academic standards from other subject areas from same grade level)

- Includes
 - ☐ objectives/learning outcome related to the standards
 - ☐ plans for diverse learner needs
 - ☐ plans for cultural relevance/awareness
 - ☐ questions that develop critical thinking (Reference Webb's DOK)
 - ☐ engineering design process
 - ☐ integrated technology with production (not just consumption)
 - ☐ carefully selected and related children's literature
 - ☐ each of the 5E's
 - ☐ elements of inquiry instruction
- Students are 'doing' STEAM
- Student collaborations and opportunities for student voices
- Engages students in active learning with curiosity throughout the lesson

The 5 E lesson model ([A model preferred by NASA](#))



The 5E lesson planning model offers a powerful framework that promotes engaging, student-centered learning experiences. By utilizing this model, teachers can effectively structure their lessons to foster inquiry, critical thinking, collaboration, and creativity among students. The 5Es encourage a gradual progression of learning, enabling students to develop a deep understanding of STEAM concepts. This model not only supports the integration of multiple disciplines but also allows for hands-on experimentation, problem-solving, and real-world applications. By incorporating the 5E model with STEAM lessons, educators can cultivate a holistic learning environment that

nurtures students' curiosity, cultivates their 21st-century skills, and prepares them to become innovative thinkers and problem solvers in an ever-evolving world.

In the 2022-23 school year, all Edina 3-5 classroom teachers have received professional development on the 5E lesson planning model and all K-2 teachers will receive professional development on it by the end of the 2024 school year. The 5E model is closely connected to the new MN State Science Standards.

Using the 5E Lesson planning model as a framework combined with the Integrated STEAM Lesson Checklist for Pilot Projects, listed below are the beginning stages of Pilot Projects for the Fall of 2023:

- **Pilot Example 1: Waves of Sound (Pathways connections: Engineering, Programming)**
 - In 4th grade, one of the new Mystery Science units is called “Waves of Sound”. This unit lends itself to multiple opportunities to integrate the design process, critical thinking and technology integration. After learning about the core content, learners will engage in exploration and application of sound in their environment.
- **Pilot Example 2: Topic: Electricity and Society (Pathways connections: Engineering, Environmental Studies/Sustainability)**
 - This 4th grade unit incorporates outdoor learning, science, ELA, social studies and media/technology standards for students to gain understanding of the phenomenon of electricity, understanding conduction and energy transfer, and viewing perspectives, both historical and looking towards the future, of electricity and the societal impacts.
- **Pilot Example 3: Patterns (Pathways connections: Engineering, Aviation/Aerospace, Medical)**
 - This 5th grade unit intertwines history, math, language arts, P.E., art and science standards to unwrap the history and methods of how civilizations have used patterns to make sense of the world around us. Patterns bring us comfort and also help guide us to new discoveries. We will look back at how these discoveries got us to where we are, and look ahead to where continued research and pattern analysis might lead us in the future.

STEAM Development Timeline:

2022-23

- Complete draft of pilot STEAM projects/units

2023-24

- Define metrics for pilot projects/units
 - Student Engagement
 - Academic Learning
- Pilot 6 STEAM projects/units in the fall of 2023
- Develop 6 STEAM projects/units for implementation in spring of 2024

2024-25

- Provide Training for all Grade 3-5 Teachers on STEAM philosophy and thinking providing contexts within current curricular resources and examples for interdisciplinary work
- Begin the K-2 Elementary STEAM design Team
- Develop 6 STEAM projects/units for implementation in fall of 2024 and an additional 6 for Spring of 2025

2025-26

- Provide Training for all Grade K-2 Teachers on STEAM lesson design