

Decision Making Rubric for InSciEd Out Partnership

Purpose: To establish quantifiable reasoning behind partner selection in our ongoing mission.

Mission: to share the culture, language and practice of science excellence with all students in our local, national and global communities.

- We facilitate partnerships between scientists, educators, industry and other community partners to rebuild science education practices for the 21st century and bring available technology and mentorship to the community.
- We empower the development of a diverse group of learners who are ready for college and workplace success in science, technology, engineering and mathematics (STEM) fields.
- We create a conduit for science literacy that results in improved health outcomes for communities.

Grounding idea: Not unlike an individual's decision to change a health behavior, a school and school district make decisions on professional development initiatives in only a semi-rational manner. History shows both of these decisions to be non-evidence based. This suggests that we should not simply look at the need for our program and assume schools will take action. We should, instead, measure school readiness in a similar manner to our clinical decision matrix.

Overview: We have established a 5-year record of student-focused metrics (both qualitative and quantitative). We have employed a basic decision process to new partnership, but we have not correlated the two (ie. Student outcomes to district or school level characteristics). Here we propose a set of rubrics used to quantify new partner alignment with InSciEd Out goals to determine a priority selection process for initial scale-up.

The levels of evaluation will include: Hub, Science Faculty, School District, School, and Teacher.

Level One: Hub (Institution) Partnership Rubric

Rubric Value Description				
Characteristic/Capacity	1	3	5	Source
Community Socioeconomic Demographics	The community is not socioeconomically challenged.	The community shows socioeconomic challenges, but they are not stratified.	The community shows stratification by socioeconomic status and a clearly marginalized group.	Department of Education or Chamber of Commerce.
Community "Racial" Demographics	The community has little or no racial diversity.	The community shows racial diversity, but no group is uniquely marginalized.	The community shows diversity of race and a clearly marginalized group.	Department of Education or Chamber of Commerce
K-12 Student Mobility	Students in the community are consistently moved between districts, schools, or classrooms.	There is mobility of students within the community, but it is due to an identifiable and measurable stimulus.	Students in the community are stable and present across multiple years.	Department of Education
Public Transportation	The institution (hub) is isolated and has few options for parking or public transportation.	The community has some public transportation options and/or the institution has parking.	The community has multiple options for public transportation and the institution has parking.	Chamber of Commerce
Undergraduate Programming and Graduate Programming	The institution (hub) has only research level scientists.	The institution (hub) has students or staff actively involved in health sciences	The institution (hub) has graduate and undergraduate populations actively involved in health sciences.	Institution website
Financial Commitment to Education and the Community	The institution (hub) has not previously partnered with education or in partnership with its community.	The institution (hub) has active "outreach" components to its community in areas including education, but not a definable process of partnership.	The institution (hub) has a strong history of partnership with the community around them and a defined process for said partnerships.	Survey, Institutional website
Adjacency to Zebrafish	The institution (hub) is not within 1.5 driving hours of a zebrafish facility.	The institution (hub) currently has researcher(s) as part of its faculty who use zebrafish as a model system.	The institution (hub) currently contains an institutional zebrafish facility with the capacity to serve its outlying community.	Survey, Institutional website, ZIRC
Adjacency to Community Clinical Concerns	The institution (hub) is not associated with medical practice, research, or training.	The institution (hub) has or is associated with a medical facility with a community focus.	The institution (hub) contains a Center for Clinical and Translational Science (CCaTS)	Survey, Institutional Website, CCaTS community
Demonstrated Value of	The institution	The institution (hub)	The institution	Institutional

Teaching within Institution	(hub) has no expectation of teaching or gives no value to teaching in promotion and tenure metrics of its tenured faculty.	has some metrics applied to faculty promotion and tenure in scientific fields.	(hub) has defined metrics in teaching and mentoring as checks and balances within the tenure and/or promotion for scientific faculty.	Promotion and Tenure Information through Institutional Official
Breadth of Fields Represented Internally or Within Community	The institution (hub) does not include more than one area of study.	The institution (hub) is associated with multiple fields of study through external partners.	The institution (hub) has multiple fields of study integrated within their own system.	Survey, Institutional Website
Evaluation	There is little or no evidence that the institution (hub) has or measures goals for its own improvement.	The institution (hub) has some metrics of their own goals and plan for growth/improvement.	The institution (hub) has a long track record of improvement through applying program level evaluation.	Promotion and Tenure Information through Institutional and/or Departmental Official
Total Score				
Scaled Score				

Level Two: Scientific Faculty (Steve's Role) Partnership Rubric

Characteristic/Capacity	Rubric Value Description			Source
	1	3	5	
Laboratory Demographics	The laboratory does not demonstrate the diversity of its home community.	The laboratory falls at or above either the socioeconomic or racial diversity demographics of its home community, but not both.	The laboratory falls at or above the socioeconomic and racial diversity demographics of its home community.	Human Resources Official
Tenure	Faculty member is not tenured.	Faculty member has tenure or its equivalent.	Faculty member is considered full professor or its equivalent.	Biosketch
Funding	The faculty member is unfunded.	The faculty member is financially stable with likelihood of maintaining stability.	The faculty member shows a history of consistent funding, including renewal of major grants (R01 or equivalent).	Biosketch
Education track record (and evaluation)	The faculty member has no record of integration of his/her own work with education.	The faculty member has either addressed metrics in his/her own teaching or built partnerships for the K-20 space.	The faculty member has consistently employed metrics to improve his/her own teaching and has applied a concept of "pipeline" to partner in the K-20 space.	Biosketch, Survey

Scientific Work	The faculty member has a weak or inconsistent publication record.	The faculty member has a strong publication record and a growing reputation in his/her field.	The faculty member has a measurable H-index and an internationally recognized reputation in his/her field.	Biosketch, H-index tool, Survey
Administrative Support	The faculty member is not broadly supported by their administration in their efforts to partner with InSciEd Out.	The faculty member's administration provides evidence of financial and/or commitment level support (% effort) to their time with InSciEd Out.	The faculty member's administration extends their broader department/college/university as a further partner of InSciEd Out.	Departmental or Institutional Official (Letter)
Global Network	The faculty member's network appears mostly "local".	The faculty member has published (or its equivalent) with many scientists of multiple fields in their own country.	The faculty member has published (or its equivalent) with a network of faculty around the world in a consistent manner.	Biomedical Experts Website
Dweck Alignment	The faculty member believes in fixed intelligence.	The faculty member understands the malleable nature of intelligence, but may not know how to apply this knowledge.	The faculty member recognizes the malleable nature of intelligence and the need for both mastery and performance goals.	Teaching Philosophy or Survey
Model System Experience	The faculty member does not use model systems.	The faculty member has use of a breeding population of zebrafish or other applicable model system.	The faculty member has expertise in core level management of zebrafish or another applicable model system.	Biosketch
Student Rating and History	The faculty member does not work with undergraduate or graduate students.	The faculty member has a strong letters of support from current students.	The faculty member is supported by strong letters from past students and has a measurable history of mentorship.	Student Letter, CV
Total Score				
Scaled Score				

Level Three: School District Level Partnership Rubric

Rubric Value Description				
Characteristic/Capacity	1	3	5	Source
Socioeconomic Demographics	The district is not socioeconomically challenged.	The district shows socioeconomic challenges, but they are not stratified.	The district shows stratification by socioeconomic status and a clearly marginalized group.	Department of Education or Chamber of Commerce
Racial Demographics	The district has little or no racial diversity.	The district shows racial diversity, but no group is uniquely marginalized.	The district shows diversity of race and a clearly marginalized group.	Department of Education or Chamber of Commerce
Current Professional Development Commitments (Time/Finance)	The district has multiple year commitments for some or all of its professional development time and finance.	The district has a commitment to professional development and some capacity for new initiatives.	The district is actively seeking professional development opportunities.	District Professional Development Representative
Current Initiatives (Field Alignment)	The district is not focused on science.	The district has several initiatives, among them science.	The district has a dominant STEM initiative.	District Leadership
InSciEd Out Alignment	The value of InSciEd Out would be relegated to broad teacher professional development.	InSciEd Out is aligned (and could be the poster example) with current district initiatives.	InSciEd Out could be used as criteria for hiring or placement of teachers within the district.	Superintendent or School Board
Dweck Alignment	The district supports fixed intelligence theory through isolation of "low IQ" students.	The district policy supports the malleable nature of intelligence, but there is not a cogent plan to support growth for each and every student.	The district policy supports the malleable nature of intelligence through clear mastery and performance goals for teachers and students.	Survey
Clinical Needs of the Community Served by the District	The community served by the district has no	The community served by the district has some actionable	The community served by the	Clinical Visit, Medical Center Official

	identifiable clinical needs.	clinical needs.	district has identified health disparities within clinical outcomes associated with marginalized members of the community.	
Academic Needs of the District	The district has no clear academic needs.	The district has some identifiable needs academically.	The district has identified and measured specific academic needs in STEM disciplines.	Department of Education, Survey
Track Record of Performance (expressed as growth data)	The district has no measurable effort or improvement in historically low academic proficiency.	The district has a clear effort shown and some measurable gains in academic areas of focus.	The district has clear goals for academic improvement and a track record of measured gains and losses.	Department of Education, Survey
Access to Funding	The district has no financial resources.	The district has financial resources, some of which may be designated for STEM professional development.	The district has intramural and extramural funding specific to growth of teachers and students in STEM disciplines.	District Professional Development Official
Focus on K-20 Pathways	The district does not vertically connect goals between grade levels	The district has alignment of focus within primary and secondary but not across them.	The district has a full "pathway" plan for prekindergarten through college, linking goals across grade levels throughout.	District Curriculum Director
Superintendent Track Record of Innovation	The superintendent has no history of innovation.	The superintendent has some working initiatives with metrics.	The superintendent has a history of innovation at this and other	CV/Resume

			locations. The innovation includes clear metrics of student success.	
District Track Record on Evaluation (Student Focus)	The district does not measure success through student outcomes.	The district measures growth of students as part of their own evaluation.	The district meaningfully connects student outcomes to teacher performance.	District Leadership
Total Score				
Scaled Score				

Level Four: School Level Partnership Rubric (FIRST FOLLOWER)

Rubric Value Description				
Characteristic/Capacity	1	3	5	Source
Socioeconomic Demographics	The school is not socioeconomically challenged.	The school shows socioeconomic challenges, but they are not stratified.	The school shows stratification by socioeconomic status and a clearly marginalized group.	Department of Education, Chamber of Commerce
Racial Demographics	The school has little or no racial diversity.	The school shows racial diversity, but no group is uniquely marginalized.	The school shows diversity of race and a clearly marginalized group.	Department of Education, Chamber of Commerce
Readiness for Innovation	The school does not start new initiatives without seeing them in other schools in their district.	The school has led new projects in the past.	The school is a recognized early adopter.	District Leadership
Clinical Needs of the Community Served by the School	The community served by the school has no identifiable clinical needs.	The community served by the school has some actionable clinical needs.	The community served by the school has identified health disparities within clinical outcomes associated with marginalized members of the community.	Clinical Visit, Medical Center Official
Academic Needs of the School	The school has no clear academic needs.	The school has some identifiable needs academically.	The school has identified and measured specific academic needs in STEM disciplines.	District Leadership, Principal

Sustained Initiatives	The school has no initiatives that have lasted beyond one academic year.	The school has at least one multi-year project with measured behavioral change.	The school commits multiple years to any new project to ensure successful implementation.	District Leadership, Principal
Dweck Alignment	The school supports fixed intelligence theory through isolation of "low IQ" students.	The school's practice supports the malleable nature of intelligence, but there is not a cogent plan to support growth for each and every student.	The school's practice supports the malleable nature of intelligence through clear mastery and performance goals for teachers and students. Students are "pushed in" not "pulled out" for special programming.	Survey
K-20 Pathways	The school does not vertically connect goals between grade levels	The school has alignment of focus within their own roof (within primary or secondary, but not across).	The school has a focus on alignment both with students feeding into its programming and to the students matriculating from its programming.	Principal
Principal as an Innovator	The principal has no history of innovation.	The principal has some working initiatives with metrics.	The principal has a history of innovation at this and other locations. The innovation includes clear metrics of student success.	Survey, CV/Resume
Evaluation (Student Focus)	The school does not measure its own success in the light of student performance.	The school measures growth of students as part of their own evaluation.	The school meaningfully connects student outcomes to teacher performance.	Principal or Evaluation Official
Funding	The school has no financial resources.	The school has financial resources, some of which may be designated for STEM professional development.	The school has intramural and extramural funding (potentially Title 1) specific to growth of teachers and students in STEM disciplines.	Principal
Total Score				
Scaled Score				

Level Five: Teacher Level Partnership Rubric (Agents of Change)

Rubric Value Description				
Characteristic/Capacity	1	3	5	Source
Climate of Seniority	Experiential levels of teachers is not used in a beneficial manner.	There is top-down mentoring among teachers.	Teachers use the unique experiences of each individual to grow in their own craft.	Survey
Innovation Readiness	Teachers show a “burn out” on education, citing past failures.	Teachers are open to participation, but may need help in lowering some hurdles.	Teachers are actively seeking innovation to address student needs.	Survey
Intent toward professional growth	Teachers have no intent to attend professional development in the coming year.	Teachers include some professional development in their yearly planning.	Teachers actively seek pertinent professional development based on school and district initiatives.	Survey
Teaming History	Teaching and planning are done individually.	Teachers have infrequent meetings for teaming within grade level teams.	Teachers work daily with grade level teams to improve lessons and often seek teaming beyond their field and/or grade level.	Survey, Principal
Dweck Alignment	The teachers express an intelligence theory through isolation of “low IQ” students.	The teachers show an understanding the malleable nature of intelligence in their teaching, but there is not a cogent plan to support growth for each and every student.	Teaching supports the malleable nature of intelligence through clear mastery and performance goals for the teachers and their students.	Survey, Teaching Philosophy
K-20 Pathways	The teachers do not consider benchmarks of other grade levels.	The teachers consider other grade levels within their school when making pedagogical decisions for their students.	The teachers consider the input to their school and the goals of matriculating students when making pedagogical and content decisions.	Survey
Action Research	The teachers are not cognizant of action research.	The teachers reflect on lessons and actively change them for continuous improvement of their delivery.	The teachers use action research to inform real-time changes in their lesson planning and curriculum development.	Survey
Evaluation (Student	The teachers do not	The teachers	Teachers actively	Survey, Principal

Focus)	measure their success in the light of student performance.	measure growth of students as part of their own evaluation.	seek measurement from peers with a focus on student outcomes.	
Student empathy	The teachers cannot identify specific students who they envision as part of lesson planning.	The teachers occasionally consider specific students in the improvement of their curriculum.	The teachers can call up specific and pertinent student examples when they lesson plan.	Survey
Total Score				
Scaled Score				