Futures Team Workshops

INTRODUCTION

The Futures Team met for four all-day long facilitated workshops to develop the concepts outlined in this report. Much of their collaborative time was spent in small group and whole group discussions. They did homework. This is a transcription of their workshop days.

MOST RELEVANT EDUCATIONAL PRACTICES

Frank Locker shared a presentation on 21st Century Schools. The Futures Team responded with personal scoring the degree of relevancy of the educational practices presented. Small groups of 8 team members then identified the practices they believed, as a group, were most relevant to the future Wayland High School.

A copy of the presentation is in Ch 5.5 of this Appendix.

The narrative below summarizes, and then records the small group work.

Small groups were asked to identify the three most relevant practices for Wayland.

The practices cited as most relevant, based most common mention in small group deliberations were:

Flexible Buildings + Spaces (5 citings in 7 small groups)
Multiple Intelligences (4 citings)
Relevance + Rigor (3 citings)
Project-Based Learning (3 citings)

For the record that follows, the numbers in parentheses (X/Y) indicate the degree of consensus for each statement. Thus 5/8 indicates 5 out of 8 people in the group agreed.

Group 1

- Flexible buildings + spaces 8/8

- Project-based learning 8/8
- Community based learning/Community in School 8/8

Group 2
- Interdisciplinary 6/8
- ***Relevance + rigor 5/8
- Small Learning Community 5/8
- *** Project-based learning 4/8

Group 3
- ****Multiple intelligences 7/8
- ****Flexible buildings + spaces 7/8
- ***Relevance and rigor 6/8

Group 4
- ****Flexible building + spaces 8/8
- ****Multiple intelligences 8/8
- Community in school 7/8

Group 5
- ****Multiple intelligences 4/8
- Team teaching 6/8
- Small Learning Communities 3/8
- *Flexible buildings/spaces (…see M Daniels!)

Group 6
- *** Project-based
- New classrooms
- Multiple Intelligence
  - Teacher Planning Centers 1
  - Team teaching/interdisciplinary 2
  - Community based school 2
  - Flexibility 3
  - Relevance + rigor 3
  - Project-based 4
  - Community in School
  - Multiple Intelligences 4
  - New classroom ideas 4
  - Other: Liberal Arts/strong classical foundations of thought/knowledge
  - Light/natural spaces/architectural beauty

Group 7
- ****Flexible build 8/9
- Embedded Tech (internet learning) 6/9
- ***Relevance and rigor 4/9

The following is the composite scoring of the Futures team members:

21st CENTURY SCHOOLS PRESENTATION

ISSUE	RELEVANT		DON'T KNOW		NOT RELEVANT	SCARY
INTERNET LEARNING 24/7	31	16	3	2		7
MULTIPLE INTELLIGENCES	32	14	7			
RELEVANCE + RIGOR	32	10	7	2		
TEAM TEACHING	29	15	11			
PROJECT BASED LEARNING	40	10	4			
ADVISOR ADVISEE	25	22	4	2		
TEACHER PLANNING CTRS	31	13	7			
SMALL LEARN COMMUNITIES	27	15	10	2		
COMMUNITY IN SCHOOL	34	19	2			
NEW CLASSROOM IDEAS	38	11	4	1		
FLEXIBLE BUILDINGS + SPACES	47	7	2			
INTERDISCIPLINARY	35	13	5	2		
COMMUNITY BASED LEARNING	28	21	4	2		
TUTORIALS	20	17	14	2		
PERSONALIZED LEARNING PLANS	21	20	9	3		1
STUDENT WORKSPACES	35	13	6			1
OTHER	8	1	2			

WHAT WORKS? DOESN'T WORK?

The whole group brainstormed opinions about the current Wayland High School, in the form of "What Works?" and "What Doesn't Work?"

WHAT WORKS?

- Open campus – preps students for college
- Commons + outdoor + good support for limited free time
- Food choice
- Little Theatre great size and scale
- Each grade level has own building for homeroom + lockers
- Size of site – for Learning Place
- Campus plan – 5 minutes to feel alive
- Commons and Social Center
  - But not a nice space or very accommodating
- Library – maybe ok for group study
- Should be "home away from home"
  - Couches
  - Art walls
- Arts due to teachers but not due to building
- No handicapped access
- Open campus engendered responsibility + sense of total commitment
- New building should not look drab
- Exciting teachers
- Freedom + authority for kids but limited by buildings
- Communication; Administration to parents works
- Support from parents make WHS special
- Academic rigor
- Personal attention

DOESN'T WORK

- Computer Labs
  - Sign-ups not coordinated
  - Cannot get access
- METCO room too small
  - Location poor
  - Not enough resources: text books
- School is just a center for students
  - Should be open to community
- No place for kids when Commons closes (early)
- Need variety of places for study
- Little Theatre always filled up
- Locker rooms
- Open campus
  - Efficient?
  - Energy?
  - Poor security
- Dark, drab, ugly building
- Make outside space even nicer
- Performance spaces
  - Little Theatre
  - Gym
  - Nothing in between
- Need good meeting spaces
- Hard for teachers to communicate with parents – technology needed
- No smaller groups – need TAG – (Teacher Advisory Group) like at MS
- Lots of MS systems are good but do not carry over
  - Multidisciplinary
  - TAG
  - Small groups
  - Teachers know social issues
- Have to have variety of spaces (noisy, etc)
- Back packs – not good for health
  - Can we have personal laptops?
- Need more places to display arts – long time
- Need student work displayed
  - Museum
- *Use Courtyard for more than passage – use for learning
- Practices for athletics run to 8PM
  - Hard for METCO
  - Field house inadequate
    - Lack of space
- Wellness Program is minimal – should be part of program

  - Location of METCO study room – too close to Commons
- Special Need space too small
- Central location good

SUCCESS

The Futures Team worked in small groups to characterize success for Wayland High School. The groups simultaneously developed ideas on flipcharts about successful:

- Students
- Graduates
- School

The flipcharts were them moved to several more tables. Subsequent tables added commentary with the following code:
If they agreed with the earlier statement, mark it with a +
If they disagreed with the statement, mark it with a -
If the needed to add a new idea, write it out

SUCCESSFUL STUDENTS

- Healthy angst
- Asks a good question
- Selfless
- Self-motivated ++
- Inspired ++
- Organized ++
- Understanding ++
- Hard-working ++
- Conscientious ++
- Good listener ++
- Happy ++
- Empathetic ++
- Curious ++
- Risk taker ++
- Inquisitive ++
- Respectful ++
- Sense of humor ++
- Generous (giving back)
- Strong work ethic ++
- Perseverance ++
- Appreciative ++
- Leadership ++
- Confident ++
- Creative ++
- Self-reflective ++
- Responsible ++
- Grounded ++
- Open-minded + challenging ++
- Healthy ++
- Polite ++
- Passionate ++
- Resilient – ability to accept failure++
- Connected ++
- Collaborative ++
- Self-advocate+
- Helpful to others +
- Inquisitive/curious +
- Self-aware +
- Self-disciplined +
- Motivated
- Willing to explore/risk taking +
- Collegial (peers)/collaborative (balanced with independence)
- Integrity+
- Risk-taking +
- Life-long learner
- Support system strong +

Character

- Respectful ++
- Accepting/open-minded
- Manners/civility
- Empathetic
- Punctual +
- Passionate
- Expressive
- Independent
- Self-motivated +
- Kind
- Cooperative

Self Awareness/Learner

- Confident
- Willing to make mistakes/learn from them + take risks +
- Curious
- Understanding of own strengths/weaknesses ++
- Accountability
- Coachability
- Amount of effort + achievement

Cognitive Abilities

- Ability to organize information/time management+
- Think outside the box - creativity/decipher/induce +
- Flexibility +

SUCCESSFUL GRADUATES

- Lifelong learning
- Self-confident +
  - Assertiveness/leadership
  - Ability to do college level work/higher education/continuing education
- Meet own basic needs +
  - Food/shelter
- Appreciates and values diversity
- Contributors
- Self-aware +
  - Ethical and honest
- Open-minded +
- Empathetic +
- Directed +
- Socially responsible +
- Global citizen +
- Happy – sense of humor +
- True to self +
- Communicate +
- Problem-solve +
- Work with others +
- Think critically +
- Adapt/coping +
- Positive energy +
- Optimistic +
- Perseverance
- Develop good study skills
- Confident – positive self image +
- Independent – emotionally + functionally + morally +
- Knows how to function in a global and changing society+
- Not afraid to take risks/pursue passion
- Can learn from bumps in the road
- Live away from home!
- Able to see things through multiple perspectives ++
- Problem solvers ++
- Empathetic ++
- Critical thinking ++
- Creativity ++
- Think outside the box ++
- Works well with others +/-
- Team builders -/+
- Accountability and responsibility +
- Communicate and advocate +

SUCCESSFUL SCHOOL

- Gives student support ++
- Opportunity to find (their path) road +
- Good investment +
- Diverse, professional staff that engage + induce excitement in the students +
- Parents-parent/community/school/student partnership +
- One that students want to go to
- Ability to address needs of a diverse student body
- Multiple intelligences
- Provide positive social and peer interaction ++
- Extra-curriculars: allows students to grow and experiment ++
- Solid set of faculty/student-centered core values
  - Mission Statement meaningful +
- Provides opportunity for students to feel proud +
  - Display student work – achievements
- Engaged/engaging – students feel personal investment in their education ++
- School values and follows through on student/parent/community input
- Allows students to develop+
- Navigate their own education (to some degree)+
- Prepare students for life after HS

    - Co-op with community
- Fosters personal relationships between student/faculty
- Allows for diverse assessment
- Values all students
- Strong academic program that delivers well-rounded comprehensive curriculum +
    - Supported and valued by the community
- Meets needs of all learners +
- Excellent educators supported by community
- Fostering community +
- Nurture teachers' professional development
- Develop life-long learning +
- Develop life skills – function in the world +
- Safe space conducive to learning
- Fosters motivation, discipline, independence

DISCUSSION FOLLOWED

Students

- Why weren't grades mentioned?
    - If kids have all other qualities, they will get good (grades)
- Assessment
    - If other qualities are important, why get measured on only on academics?
    - Report cards – limited in what they can measure
- We need better measures of learning, but how to do it?
- Envision future changed

Graduates

- Global citizen

School

- Well rounded – comprehensive curriculum
- We want it to meet needs of all learners instead of being college prep
- Is it a comprehensive high school?
- No, but not a classical high school either
- One example of such a school is Thomas Jefferson HS
    - IBET course: Integrated Biology, English, Tech

PROGRAMS + SERVICES

Futures Team members identified existing and possible programs and services at Wayland High school, and then evaluated how well students are being served. They were asked to:

- Clarify the program or service
- Evaluate its operations and success
- Identify relationship to school organizational structure

"STUDENTS WITH NO INTERESTS"

- There is an attempt to offer opportunities, but not all students are being served
- Relationships building
    - Peer
    - Educator advisors
- Interdisciplinary
    - Question of "mandatory" exposure to create/foster student interests
- Project-based learning
    - Connect to "real life"

GROUP DISCUSSION ON "NO" STUDENTS

- Freshman electives would stimulate interest
- Relationship building is important
- Interdisciplinary learning
- What is the mental health aspect?
- Guidance could be stepped up

WHS MISSION + EXPECTATIONS STATEMENT

- Inclusivity – all students *
- Integration of civic/academic/social expectations into educational structure
- Alternatives for student access
- More focus on creativity in student skills
- Alternatives for curriculum delivery – "non-trad" pathways
- *At WHS or?

GROUP DISCUSSION OF THE MISSION STATEMENT

- Needs "creative"
- Needs student portfolios

- Not any prescribed pathways
- Needs to be explicit on delivery
- Need tools to measure success
- Mission statement is not part of student consciousness, but is a part of teaching

INTERDEPARTMENTAL

Communication

- Few and far
- Systemic issue
- Strong within departments
- D H's disseminate info to department
- E-mail takes away face-to-face
- *Do have efforts:
    - cookouts – festivals

Collaboration (2%)

- When done, works?
- Journalism
- History of Rock/Jazz
- Shakespeare
- American Lit/CUSH
- History/Tech web projects
- ISPAN 1&2
- WISPO luncheon (is)

Lunch creates problems

- Only 25 minutes
- T's do not leave room/office

Bottom Lines

- Time
- Space
- (Neither fosters the effort)

GROUP DISCUSSION OF INTERDEPARTMENTAL

- Interdepartmental teaching is now
    - Catch as catch can
    - When done, done well

OUTLIER STUDENTS

Definition: Fall on a spectrum of disengagement to the academic or social worlds

- Could be getting good or bad grades
- Differing types – not necessarily "no interests." Have non-mainstream interests
- Passive + individual
- Need guidance to engage

Possible solutions:

- Incorporate interest into curriculum? Realistic?
- Work with advisor to learn how to engage in existing system
- Project-based
- Change assessment tool
- Group accountability
- Learn to manage interests vs requirements

GROUP DISCUSSION OF OUTLIERS

- Disengagement is a characteristic
- Few systemic approaches
- Passive disengagement

HEALTH AND WELLNESS

What is it?

- Coping with stress
    - Academic
    - Emotional
    - Physical
- Social health
- Energy to function
- Disease prevention
- Basic physical fitness
- Self-motivated
    - *Difference between being told to run and deciding to run
- Drug prevention through design and programs

How well does school structure address Health and Wellness?

More visibility/higher priority.

Curriculum/Structure

- Staffing
    - Need more supervisors or electives "open gym"
- 9th grade vs 12th grade
- Accessibility to all
    - Encouragement
    - Opportunity

    - More than "regular" athletic teams
- Chris Brown's course "Sports Health"
- Electives
- More classroom space
- Dance, yoga, aerobics

GROUP DISCUSSION ON HEALTH + WELLNESS

- Much more than sports
- Need a reliable sports health course

FINE ARTS – STUDENTS WITH ARTS INTERESTS

Why?

- Arts = humanity
- Transcends cultures
- As important as athletics
- Meets multi-intelligence
- Interdisciplinary
- Necessary skill/knowledge for future

Define:

- Dance
- Instrumental
- Visual
- 3-D
- Drama
- Video/film (WSPN)
- Chorus
- Photography
- Graphics
- A cappella

How well are we serving them?

- Doing well with music
- Hit or miss
    - If course is filled, not enough courses/teachers - students turned away
- Exposure under-represented
- We do not meet minimum arts standards at elementary level
- We need tech in Arts – don't have now
- Not a level playing field – some children do have access to extracurricular or in-school arts programs due to family support + time, organizational issues, financial resources
- No web design, computer graphics
- More computers, technology
- Ideas for future
    - Fine Arts graduation requirement?
    - Many choices available for different styles of students
    - Not keeping up with peer towns
    - If arts interest, skill or need is not met, you may become an outlier – no place to belong/become
    - Life Arts Course – there isn't one
    - Need for more community outreach to local artists

GROUP DISCUSSION ON FINE ARTS

- Strong connection between Fine Arts & Other Learning
- Do not have Fine Arts graduation requirement
- Technical arts

STEM: SCIENCE TECHNOLOGY ENGINEERING + MATH

- Principles of Tech
- Robotics as a club – better if a class (big commitment for interested students)
- Math and Science dovetail
- Physics classes designed for Engineering
- Use of technology in Science
- Physics & Chemistry Labs use sensors
- 85% students exposed to the Physics classes
- BIO-DNA/Forensics part of curriculum (100% of students)

How to strengthen:

- Virtual HS will allow them to take courses that are not offered
- Improve departmental communication
- Tie the things working on to what the "work" title is
- Department offices closer to each other
- The shift from comprehensive HS to classical lost Tech, thus lost overlap
- Tap into outside expertise.
    - Connection with community
- Internships

GROUP DISCUSSION ON STEM

- Ideally interdisciplinary
- It could be STEAMM: Science Technology Engineering Art Music Math

METCO
Current office in bad location
- Commons NOT an academic space
- NOT currently central
- Isolated from rest of school
- Lacks accessibility to other faculty/teachers
- Perhaps should be integrated into larger Guidance suite
  - But also need space for CIGS course
- Despite bad location, students appreciate this space
  - Place for adjustment counseling

METCO students feel isolated
- Need for a place to go – safe space
- But need not to become more isolated

METCO Institution
- Has seat at Dept Head's table
- But not an academic department per se
- Access to honors courses limited for METCO students
  - Not "squeaky wheel" parents
    - Don't want to make waves

School tries to be accessible to community – including METCO parents
- Hard or working parents
- Fostering cooperation/partnerships between Boston & Wayland parents
- Friendships fostered through athletics, etc, but still lack of communication between Wayland & Boston families
- Establish parent – parent connection
  - Communication & advocacy

Facilitating – METCO departmental connections
- METCO like Guidance
  - Part of every department

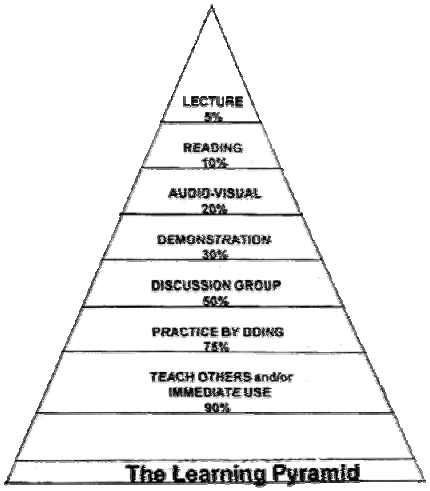
GROUP DISCUSSION ON METCO
- METCO study room
  - Open to all but don't get visitation from others
  - Destination may be a problem in limiting non-METCO students
- Sports
  - Timing is problem regarding games
  - Dwell time

METCO
- Parents – fear of being squeaky wheel
- Wayland parents do not meet to Boston parents
- How can we mentor parents?
- Separate METCO resource room
- "We are all a METCO school"
- The achievement gap at WHS is not just METCO students:
  - METCO 50%
  - Wayland residents 50%

LEARNING THEORY: IS IT TRUE?

The Futures Team worked in small groups to explore the implications of two educational theories. Both had been outlined in the 21st Century Schools presentation. Both explorations were framed by a series of questions, as follows:

LEARNING PYRAMID



THE LEARNING PYRAMID SHOWS ARE BELIEVED TO BE THE RATE OF RETENTION OF DIFFERENT METHODS OF INSTRUCTION

1. In your experience, it this true?
2. How far down the pyramid is learning at WHS?
3. How far down the pyramid can future learning be at WHS?
4. What instructional techniques/school structure/programs could move learning down the pyramid?
5. Why not do so now?
6. What do your answers to questions 1-5 imply for planning future facilities?
7. Create a learning experience towards the bottom of the pyramid.

Learning Pyramid source: NTL for Applied Behavioral Science, Washington, DC

RESPONSES BY SMALL GROUP

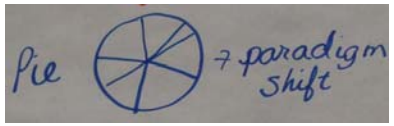
Group 1

1 Yes/No
- *depends
  - i. Engagement
  - ii. Environment
  - iii. Story
  - iv. Humor
  - v. Connections

2. English – discussion group
   Math – practice by doing
   History – practice by doing
   Fine Arts – immediate use
   Science – practice by doing
   Language – lecture – practice
3. Immediate Use through interdisciplinary
4. Field trips, interdisciplinary, visitors, tutoring, simulations, co-ops
5. "Stalled" by content coverage (MCAS, etc)
   Culture (Academic issues)
   Value on assessment – college placement
6. Need
   - Small breakout rooms
   - Project shops
   - Community involvement
7. Life Graph
   - Public speaking
   - Visual representation of life
   - Write it, poster it, present it.
   - History/Art/ Communication
     - o Teach others about you

Group 2

1. In general yes, but depends on students learning styles (HI) and quality of education experience whether lecture or group activity
2. All teachers use all methods at some point. No teacher does just one. Variety depends on subject + individual.
3. PIE – paradigm shift



4. Community + project-based learning. Authentic assessments
5. PD resources – time, financial, role of standardized tests
6. Classroom + other spaces – flexibility so can have room to rearrange seats, small groups, etc.
7. "Company Program"
   "WSPN"

Group 3

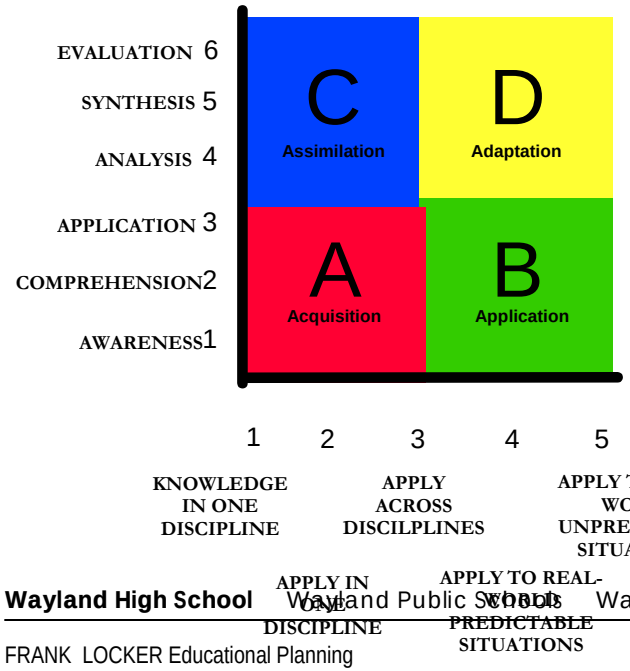
1. Yes
2. Discussion gap, Science goes into Practice by doing
3. We can go to the bottom category
4. Internships/Laptops for each student/better technology resources/Senior Project
5. Cost/space/time/planning
6. The availability of space tinkering room that allows student to explore with flexible staffing/time
7. Resources have to be: Flexible + updatable

Equipment
Consumables

Group 4

1. Yes or very often
2. (Avg) up to discussion
   - Case-by-case – bottom 2
3. All the way down – can be
4. Professional development, project learning, physical space
5. Resource constraints – "if it ain't broke . . ."
6. Flexible spaces for different experiences
7. *Project-based,* interdepartmental, *real world problem solving,
   Bio class: daily samples of Sudbury River report with Conservation Department, ongoing

RIGOROUS & RELEVANT FRAMEWORK

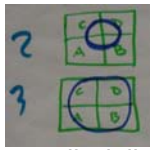


THIS DIAGRAM ILLUSTRATES A CONCEPTUAL FRAMEWORK FOR DIFFERENT METHODS OF INSTRUCTION

1. In your experience, do you believe Quadrant D is most rigorous and most relevant?
2. Generally, in what quadrant is learning at WHS?
3. In what quadrant can future learning be at WHS?
4. What instructional techniques/school structure/programs could move learning to a different quadrant?
5. Why not do so now?
6. What do your answers to questions 1-5 imply for planning future facilities?
7. Create a Quadrant D learning experience.

International Center for Leadership in Education www.leadered.com; www.daggett.com

Group 1

1. Yes
2. 
3.
4. Interdisciplinary, project-based
5. Limits on time, resources, building layout/space, schedule, tradition.
6. Big changes:
   - Physical plant
   - Flexibility
   - Staff development
   - Community support for new way of thinking/ implementation

Group 2

1. Yes, but
   - Arriving at B or C might be fine
2. Depends on
   - Grade level

- Course level
- Dept?

3. More B; don't discard C
4. Community, projects
   - Interns
   - Externs
5. Resources, training, paradigm shift
   - Town attitudes
   - Residents
6. Exploratorium
   - Hands-on
   - (infrastructure, materials, computer design
7. EBM (exists)
   - Build/design/test/ present

Group 3

1. Yes
2. A + C "Some B"
3. All
4. Community/global projects
5. No reason not to do it – gradual + thoughtful – supportive training
6. Flexible group spaces – global connection through technology
7. a. Develop (MS kids) an interdisciplinary MS curriculum project b. Environmental project with French HS in Lyon

Whole Group Discussion

- Town message
  - Educational paradigm shift
- Save time, energy, $
- 80% of Wayland household do not have kids in school
- "Sending kids to Harvard" is not part of mission statement
- US New + World Report – top 100
- Not against education but against expensive education
  - Have to improve
  - Educate + control cost

PROJECT-BASED LEARNING VIDEO

The Futures Team watched a video on project-based learning. It featured Eeva Reeder's 10th Grade geometry class. The project was to design a school for 2050. Group discussion following the video provoked these comments:

- Applied learning works
- Solve problem – learn Geometry
- Community mentors are important
  - Judges of student work
  - Audience is outside classroom
  - Quality of work related to Architect's care
  - Show "all I got" to Architects
  - Community – someone who can appreciate/validate
- Time for project-based learning?
- Final presentation in Architect's office
- Architect = 40% of grade
- Celebrate student work

PROJECT-BASED LEARNING

The Futures Team was given this challenge:
PROJECT-BASED/AUTHENTIC INSTRUCTION/INTERDISCIPLINARY LEARNING

Develop a project to serve as the vehicle for delivering content.

Document the skills, characteristics, facts, and/or attributes students must possess to complete the project successfully. Identify content areas.

1. Describe the project. The project should be sufficiently complex to not have a single solution.

   EXAMPLE: Design a marketing strategy to market independent student summer businesses.

2. Describe the skills, facts, characteristics, and/or attributes students must possess to complete the project successfully.

3. Describe the content areas. One, two, or more?

4. How long does it last?
   How prominent is the project within the context of the curriculum?

   EXAMPLE: It's a treat for students to break the monotony of our regular schedule. We do a week long project once a year.

   EXAMPLE: There are two levels of projects.
   The first is a single, highly complex, year-long project that serves as the basis for everything we cover in the core curricula (English, Math, Social Studies, Science).
   The second is a series of smaller projects designed to help students complete the larger project. Students are always working on a project of one kind or another.

5. Does it involve community responsibility?

6. IS THIS AN APPROPRIATE PILOT PROJECT?

Group responses were as follows:

GROUP 1
Wayland History Museum
- Create a collective living museum using interactive components
  - Exploring Wayland's past, present/future
- Skills:
  - Research/interview/ investigation
  - Organization/planning
  - Teamwork skills (cont.)
    - Math (set design)
    - Art (texture and form)
    - Promotions (P.R.)
    - Science (environment-tal)
    - Initiative

Content Areas:
- Math
- Science
- Performing Arts
- Visual Arts
- History
- English
- Business

Senior Project
- 1 semester

Community involvement?
- Yes

Appropriate?
- Of course!

GROUP 2
Student Spaces (**Sophomores**)
1. Realizing all aspects of the student spaces at the High School
   a. Space planning
   b. Aesthetic
   c. Accessibility
   d. Acoustics
   e. Energy
   f. Financing
   g. Interior Design
   h. Etc.
   i. Technology
2. Student skills
   a. Collaboration
   b. Project manage/plan
   c. Research
   d. Analysis
   e. Presentation
   f. Economics
3. Content areas
   a. Math
   b. Science
   c. Art
   d. Technology

e. Finance
f. Communication
g. Social Science
h. Ecology

4. Project duration and prominence
   a. 10 weeks/1 quarter
   b. Built into existing curriculum
5. Yes
6. Yes!

GROUP 3

The life cycle of my stuff –

- Where does stuff come from?
- Do I really need to use this?
- Where does it end up?

Project description: Teams of 4 -6 students will choose a product that they will follow from raw materials to final post-consumption life. The goal of this 5 year long project - to identify and reduce environmental impact

Content areas/skills

- History
- Economics (Smith, Malthus & Ricardo)
- Chemistry/Physics/Biology/ Environmental Sciences (make-up of materials + environmental impact, understanding, **Car. Ft.**)
- Statistics
- Art (media content)
- Health
- English (Public Speaking/presentation)
- Technology/website
- Geography
- Outcome
- **SENIOR PROJECT**

GROUP 4

Energy Unlimited

1. Develop and design an environmentally friendly and efficient energy source for residential/municipal buildings
2. Writing skills/Public Speaking/Technical skills/Creativity
3. English Language/Environmental Science/Physics/History/Business/Technology/ Fine Arts/Media
4. School Year Elective
5. Yes
6. Yes

GROUP 5

SEAP

- Title:
  - Student Environmental Action Project
- Description:
  - Design a solution that solves a community environmental problem
- Attributes students must possess:
  - Biology & Science information
  - Research skills
  - Data collection
  - Time management
  - Team work
  - Organization
  - Writing
  - Public Speaking
  - Media use,
  - Graphic Design
- Content areas:
  - Biology
  - Science
  - Law
  - Business
  - English
  - Social Studies
  - The Arts
  - Technology
  - Finance/budget
  - Architecture
  - Engineering
  - Almost anything!

- Length
  - A quarter = 9 weeks
- Prominence
  - Culminating interdisciplinary class project
- Community responsibility:
  - Yes, students working with community organization, i.e.
    - Conservation
    - Finance
    - School administration
    - DPW
    - SVT
    - Audubon
    - WAYCAM
    - EPA
    - WPSN
    - Historical Commission
    - Archeology
- Pilot Project:
  - Yes!
  - Examples
    - Town Center septic
    - Sewage treatment
    - Development
    - Trail-making
    - Sud**bury** River Plant into the HS community by trails
    - Boardwalk
    - Transportation ideas
    - Grave stone restoration
    - Wetlands protection
    - Elementary school teaching unit
    - Walking paths – environmental education

GROUP 6

The Green Doctor

- Meet the issues
  - Tour the facility
  - Interview with experts
  - Research best practices
- Data gathering
  - Utility bill review
  - Temperature measurements
  - Automobile counting
  - Bus counts
  - Paper usage, - also toner, lunch room, trays, bottles
  - Window area measurements
  - Door openings
    - Robotics/sensors at doors
    - One door vs two
  - Thermal imaging
- Presentations
  - Data summary: Math/Statistics
  - Communicate with community – English department
  - Architects/from community builders
  - PV – local **business**
  - Spreadsheet skills
  - Website to deliver info
- Devise solutions
  - Feasibility
  - Scope
  - Modes
- Presentations/recommendations
  - Skills
    - Research
    - Computer
    - Teamwork
    - Date gathering + analysis
    - Organization
    - Communication
    - Presentation
    - Problem solving
    - Art(s) + design

GROUP 7

Community Boating (1)

- Design a community “boating” program
  - Scope of program
    - Central?
    - Storage?

        - Access only?
    - Physical layout/facility
    - Conservation impact
    - Business plan including ecological impacts
    - Marketing plan

Skills/attributes: (2)

- Organization
- Communication
- Investigative
- Mathematical
- Technology
- Political
- Debate research
- Polling
- Business

Content: (3)

- STEM
- Health + Wellness
- English
- Business
- Arts
- History
- (Foreign Language?)

Length: (4)

- Single, highly complex year-long project that serves as the basis for (almost) everything we cover in the core curricula

Yes (5)
Yes (6)

WHOLE GROUP DISCUSSION
Project-based learning offers:

- Can make learning visible
- Inspiration
- Thinkering: tinkering and thinking, important for many students
- Creates record of student work that is good public entry display

DOUG'S SUMMARY

While the Futures Team was deliberation on project-based learning, Doug developed this statement on Building Flexibility

- High School facility should meet current needs but should facilitate (<u>not</u> require) progressive/"21st century" educational approaches
    - We are coming up with the educational approaches/strategies that we would most like to see in place

KEY WORDS

As a concluding exercise for their two days of work, the futures Team developed, in small groups, key words that characterize desired:

- Learning Places (physical)
- Organizational structure
- Community relations

GROUP 1

- Welcoming
- Inclusive
- <u>Interdisciplinary</u>
- Future-oriented
- <u>Flexible</u>/open to future-oriented
- Varied spaces
- Relevant
- Creative/inspiring
- Respects tradition
- Connects to community
- Globally connected
- Physically comfortable

GROUP 2

- Flexibility
- Strong academic foundation
- Interdisciplinary
- Applied learning
- Relevance/meaningful
- Rigor
- Collaboration
- Shared vision

- Creativity
- Community
- Project-based
- Multiple intelligences
- Global awareness
- GREEN
- Technology

GROUP 3

- Flexible
- Leaner-centered
- Tinkering
- Experiential
- Respectful
- Community involvement
  - Coming into school
  - Internships
- Functional
- Application oriented
- Aesthetically pleasant
- Collaborative
- Multiple intelligences
- Project-based
- Rigorous but balanced
- Respected
- Wellness
- Intellectually inviting
- Diverse and inclusive
- Welcoming
- Creative
- Artistic

GROUP 4

- Transformational
- Visible inspiration
- Flexibility
- Global relevance
- Energizing/engaging
- Collaborative/inclusive
- Efficiency
- Student responsibility
- Creativity/risk-taking

GROUP 5

Learning

- Accessible
- Shared
- Relationships
- Amoeba-like
- Authentic experience
- Engaging
- Creative
- Interdisciplinary
- Relevant
- Flexible
- Inspiring
- Community
- Personal
- Communication
- Teamwork
- Exciting
- Enthusiastic
- Interactive
- Challenging

Building + Places

- Exciting
- Flexible spaces
- Accessible
- Friendly (welcoming)
- Comfortable
- State-of-the-art
- Healthy
- Indoor/outdoor features
- Student & teacher centered
- Community “hub”
  - Students, teachers, and residents
- SAFE

Community

- Caring/nurturing
- Welcoming

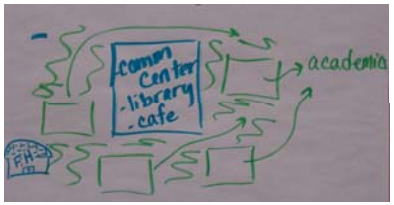
- Involved
- Engaged
- Visible
- Educated
- Centered

Organizational Structure

- Centered
- Flexible
- Open to change
- Supportive
- Shared responsibility

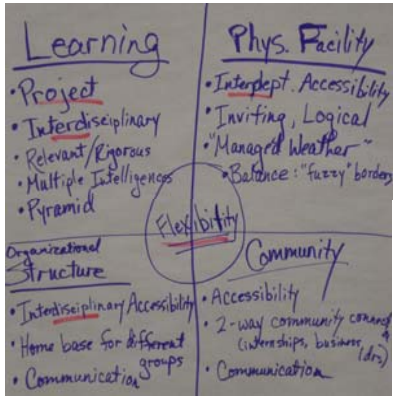
GROUP 6

- Safe
- Engaging
- Comfortable
- Inspiring
- Inclusive
- Fluid spaces
- Open
- Light
- Airy
- Outdoor spaces
- Community involved
- GREEN



- Interdisciplinary
- Multiple intelligences
- Some specific space

GROUP 7



Learning

- Project
- Interdisciplinary
- Relevant/rigorous
- Multiple intelligences
- Pyramid

Physical facility

- Interdepartmental accessibility
- Inviting, logical
- "Managed weather"
- Balance: "fuzzy" borders

Organizational Structure

- Interdisciplinary accessibility
- Home base for different groups
- Communication

Community

- Accessibility
- 2-way community connection
  - Internships, business
- Communication