

Technology Integration Plan: Grant School

IT 8140

Seminar in Advanced Technology Integration

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Grant School Technology Integration Plan

Needs Statement:

A technology integrated curriculum can help students grow with respect to critical thinking, problem solving, communication, and collaboration. These skills are increasingly important in a world that is “flat.” Technology is dissolving the barriers of communication and interaction through time and space. In order to compete and communicate effectively in a technologically integrated world it is critical that students learn and apply these skills in school. In order for students to learn and apply these skills, teachers need effective training in technology integration and access to technology resources. The development and implementation of a technology integration plan can help a school to reach the crucial task of preparing students to be 21st century citizens.

Problem Statement:

The TIP will attempt to address and correct the following at Grant School:

- Much of the technology is outdated and/or lacking.
- There is a lack of awareness of NETS and METS Technology standards by teachers and students.
- Teacher use and understanding of technology integration is rudimentary.
- Only scarce professional development on technology integration has been offered.
- The school curriculum does not have plans for technology integration.

Proposed Solution:

- Introduce the International Society for Technology in Education's National Educational Technology Standards (ISTE NETS) and Michigan Educational Technology Standards & Expectation guidelines (METS) to entire instructional staff.
- Offer teachers the opportunity to explore then choose technology hardware and software.
- Provide in-house and virtual technology training.
- Update hardware and software according to the needs assessment and budgeting limits.

Context/Setting:

Grant School is an urban elementary school serving students in Kindergarten through Grade 8. Our student population of 642 students is comprised of 89% free-and-reduced-lunch. Average class size is 28.5 students. There is one Lab/Media Center with 31 2010 Windows XP Computers and one aging mobile cart of 32 MacBooks. There are no specific procedures for the use of the lab or MacBooks. All classrooms have LCD projectors or Interactive Boards and document cameras, along with teacher computers for use on them. Each classroom has three to five student computers. The use of the available technology in Grant School is inconsistent. There is no clear understanding of the staff's technology literacy. Some teachers use their white boards some do not. There has been no official staff training on the available technologies. There is no communication regarding technology standards and technology integration. Primarily, the technology available is used for recordkeeping, testing, display/projection, minimal research, gaming (*usually* educational) and word processing. The initial survey given to both students and staff will help develop a clear picture of teacher technology integration/literacy.

Technology Goals:

- Update/purchase technology equipment based on the needs of all parties (students, teachers, administrators, and parents)
- Provide Professional Development in several areas:
 - Understanding of NET-S/T and MET-S/T and how to meet the standards,
 - Learning to use technology,
 - Learning to integrate technology into all areas of the curriculum,
- 75-100% of staff fully integrate available technology into curriculum
- Through the integration of technology and increased engagement, students will gain skills and knowledge to increase achievement.

Task descriptions, rationale, and procedures

| Task | Rationale | Procedure |
|---|---|--|
| Assessment of current hardware and software | An accurate count of hardware that is functional is required to determine where additional items or upgrades are needed. Software in place, but not used may need to be cancelled or allowed to expire. Updates to current software or better products may need to be acquired and installed | School support staff will inventory hardware. The technology coordinator will assess software. |
| Needs assessment | A fair amount of technology already exists at Grant School. In assessing need, staff will be offered technology and integration options. As part of the needs assessment, staff will need to provide rationale for all new items. | To be completed by administration, technology coordinator, teachers, and staff in the Spring as described in the timeline below. |

| | | |
|---|---|--|
| Budget and funding source research | Looking for grants to purchase the technology could significantly reduce the costs required up front from the school/school district. In addition to searching for grants, there may be matching funds available, or fundraisers could be done (possibly through websites like Kickstarter) to make technology purchases more affordable. | Administration, Technology Coordinator, and the Grant Writing Committee will research, apply for, and secure funds. |
| Research new purchases | Staff will have input on purchases and implementation plans, thus creating staff buy-in. Vendors must present their product in a brief manner and be available for questions. Others with the knowledge of and desire to acquire other products too can present to staff. | Vendors, Technology Coordinator, and teachers will share ideas on technology purchases desired for Grant School during staff meetings. |
| Repair, replace, and purchase new technology | Technology that will not be obsolete quickly should be repaired as a cost-saving measure. Replacing/purchasing new technology will be done to further advance student learning and teacher effectiveness. | Administrators and technology coordinator will make purchases based upon the needs assessments and budget. The technology coordinator will facilitate service requests from the District Help Desk on existing products. |
| Train staff on use of technology tools, old and new, and on integration into curriculum | A plan to adequately train staff is essential as it likely determines the success (or failure) of the technology implementation. Students will get the most out of the new technology if the teachers are well-trained and able to integrate the new tools into the curriculum. | The technology coordinator will make training available to staff either by facilitating PD training, scheduling an outside trainer, or locating external options for staff. Appropriate classroom coverage will be provided when training takes place during the school day. |

| | | |
|--|---|---|
| Evaluate and revise implementation as needed | Evaluation is critical to understand what is working and where improvements can be made. A great deal of time and money will be put into integrating new technology and it's important that the technology is effectively used. | All administrators and staff will complete formative and summative evaluations on Grant School's overall technology integration and self-evaluations on their personal experiences. |
|--|---|---|

Outcomes or Products

As a result of this plan teachers will not only have technology tools, hardware and software, at their disposal but will also have the training and support necessary to integrate them into their teaching and student learning. Staff will be prepared and equipped to use technology to enhance their classroom environment and curriculum, to design interactive project based lessons, and to evoke greater student engagement. Students and teachers will have improved their digital literacy and comfort with using technology as a tool of learning. Digital products will be created as a result of technology usage. Students with their greater engagement will improve in achievement as reflected on various standardized assessments. Additionally, there will be greater collaboration among staff and the community and a more supportive collegial climate will develop. Success of the TIP will be measured by the responses to the evaluations provided to teachers and students. Overall, they will express whether the TIP was successful and/or implemented well.

Timeline

Spring:

- Present staff with the rationale for and the criteria of the ISTE NETS and METS.
- Conduct several data collecting surveys of staff and students for planning purposes. Surveys should :
 - examine attitudes of staff and students on technology's role in teaching and learning and current integration
 - examine technology availability and current usage by staff
 - examine technology integration literacy of teachers
- Inventory and assess existing hardware noting age, functionality, and count. Likewise, assess the existing software for current usage amounts, cost for maintenance and/or upgrading, and dissolution
- Purchase a classroom set of (30) iPads and mobile cart.
- Present staff with technology purchasing options both hardware and software) by offering vendors the opportunity to demonstrate their products, by sharing technology solutions offered by staff, and by providing staff with resources for further research.
- Allow staff to complete purchase requests with a rationale for the item(s) that includes goals that can be measured and have a specific timeframe for integration into teaching and learning.
- Purchase new requested hardware and software as budget allows. Have newly purchased equipment scheduled for installation over the summer. Have software subscriptions begin in late August.
- Schedule Professional Development and training sessions for summer.

Summer:

- Facilitate hardware installations and training sessions.

Fall:

- Review teacher technology integration plans based upon purchase requests that were approved and monitor progress of integration into the curriculum.
- Provide ongoing professional development; collect data in the form of surveys/questionnaires

Winter

- Re-administer the initial survey to both teachers and students
- Based on formative evaluation of the integration plans in the fall, identify strengths and weaknesses of the integration. Provide support and professional development to address weaknesses

Resources, facilities, technology & personnel

- Hardware

Existing - a) Interactive Boards or LCD projectors, document cameras, and computers (teacher's computer and 3-5 student computers in each room), b) mobile cart (32 MacBooks), and c) media center with computers

New/to be updated - Would like to purchase updated mobile cart (32 computers) and/or mobile cart with 32 iPads/tablets and wireless printer

- Software

Existing - Microsoft Office, Study Island, Discovery Education, Skype, Google Earth

New/to be updated - Study Island and Discovery Education seem to be underutilized while Skype and Google Earth are essentially never utilized. Data from the Needs Assessment will determine whether to cancel Study Island and Discovery Education, or to provide training along with a timeline for school-wide implementation. Since Skype and Google Earth are free products the technology coordinator will provide demonstrations and resources for integration of them into the curriculum.

- Resources & facilities

Grant School has an existing computer lab/media center that could be used for professional development and training. The technology coordinator and district HelpDesk also serve as a valuable resource for the implementation of the new technology.

- Managerial support

The technology coordinator and help desk can help with actual technology implementation and troubleshooting. If funds are available after purchasing is complete, the school could offer stipends to staff who receive training on the various technologies and help train other staff members. Offering the stipend and/or paid time off for the training may be a good incentive for teachers to learn the new hardware and software tools and be able to help fellow teachers and other staff.

- Personnel

The administrators, technology coordinator, and grant writers will be responsible for obtaining funding and creating overall goals and timeline for implementation (with suggestions from teachers). Administrators and technology coordinator will be responsible for handling technology purchases. The technology coordinator will help provide some training for the new technology and facilitate other trainings and professional development. Staff, administrators and technology coordinator will work together to learn new technologies, implement and finally evaluate outcomes.

Organizational Change

- Changes needed at the organizational level for implementation

The organizational changes that will take place must be systemic rather than piecemeal. A redesign or transformation of the system is required to make the sweeping changes needed for complete integration of technology. Stakeholder support must be built and maintained. Motivations must be sustained by stable leadership.

Staff that must undergo change must have a readiness for it. Leaders must prepare stakeholders for the paradigm shift and establish a supportive culture. There is no quick-fix to systemic change. Good preparation is key.

Structural Change- School wide adoption and implementation of a technology plan requires resources in the form of money, hardware/software, professional development

Strategic Change- The way technology is/isn't integrated into instruction should be assessed and changed as needed

People Change- All stakeholders (teachers, administrators, IT experts, students, parents) need clear understanding of the plan's objectives and a rationale for its implementation

Process change- Similar to strategic but more concrete. Process change will involve the implementation of the plan after it is formatively assessed and refined.

- Other changes that may occur as results of TIP

Varying degrees of change should occur in each of the following: Increases in- teacher knowledge/skills of technology integration, time for preparation of technology rich lessons, technology availability, tech and administrative support, positive attitudes towards technology integration, understanding of expectations.

- Suggestions and strategies for handling these changes

Continual and ongoing professional development and opportunities to expand the use of the technologies across the curriculum

Designate at least one prep hour a week to discuss and collaborate with colleagues about the use and integration of technology into lessons

To help maintain positive attitudes and support for the plan review the TIP objectives as the plan is implemented and identify and improve upon areas identified as needing adjustment.

Frequent formative evaluation of administrative and IT support in the form of online questionnaires and surveys

Budget & Finance

- An estimate of budget and funding resources

An iPad Learning Lab with a protection plan and 10 iPads and a cart (the cart can charge 30 iPads at once) will cost roughly \$7,000. Another 22 iPads could cost over \$9000. The total for all iPads and the cart could be over \$16,000. Apps can be purchased in packages, but some of the budget will need to be allotted to obtain these apps for use in the iPads. Since this estimate doesn't include any of the teacher requested technology resources, it would not be unreasonable to expect that purchasing all new technology and paying for professional development could cost more than \$30,000.

As a potential funding source, this [application](#) for a \$3,500 professional development grant is available for schools chosen to host an EdTech conference. Einstruction offers the following [links](#) to more potential funding grants to purchase technology tools. Grant school will seek other grants as they become available.

In Conclusion

The K-8 staff will implement an authentic integration curriculum across academic core areas. During the time period strategies will be pursued that disseminate and demonstrate how the technology curriculum will be applied across the entire curriculum. Strategies toward this end will range from integration demonstrations, targeted training sessions and building level support. By the end of the TIP, a majority of staff members will engage students in technologically enhanced lessons based on this curriculum within their particular content area. Teachers will have access to and instruction on, specific technologies and integration methods with the addition of the ability to build and utilize online learning environments through Web publishing

and interactive distance learning through video conferencing. Communication of student accomplishments both technologically and traditionally delivered will be expanded to include the pilot of online progress reports delivery as well as Web publishing and Internet based communications tools.

This technology plan will be posted on the school district Web site, and numerous print and verbal contacts will be made with the school community concerning technology and student progress. The following pages provide an outline view and an up close look at Grant Elementary School's technology curriculum.

As stated, technology is a tool to support the curriculum, to reinforce prior learning, to increase productivity, and to encourage creativity and problem solving.

Program Evaluation Plan

The TIP will undergo internal formative and summative evaluations during its construction and implementation. This continuous monitoring and evaluation process will be implemented to ensure that technology is being utilized in a way that best enhances teaching and learning. A technology review will be held with all staff and technology personnel to ascertain both the successes that have been realized and to document and plan for those areas within the realm of technology that require further enhancement and/or consideration.

Stages: The actual tools will be developed prior to submission of final TIP

- Pre-program launch: Survey teacher and students evaluating levels of technology integration in lessons and attitudes regarding the use of technology
- During program: Professional Development sessions will include questionnaires on the following: Teachers' self-evaluations after each technology integrated lesson (Short questionnaire: How effectively did I integrate the technology?), Student evaluations of technology integration (Questionnaire: How many classes this week used the following technologies?), Teachers' evaluations of the levels of administrative and IT support.
- Post-program: Survey teacher and students evaluating levels of technology integration in lessons and attitudes regarding the use of technology

Pre-TIP Teacher Survey on Technology Use and Attitudes

Directions: Read each of the following statements. Circle the answer that best represents your feelings.

1 Teachers should use technology in their lessons

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

2 I use technology to support my teaching

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

3 I have sufficient technology to support my teaching

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

4 I would only use technology in my teaching if it was mandated

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

5 I have had professional development in the use of technology integration

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

6 My technology-related lesson plans are appropriate according to the Michigan Educational Technology Standards?

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

Pre-TIP Launch Student Survey

Directions: Read each of the following statements. Circle the answer that best represents your feelings.

1 All of my teachers integrate technology into their lessons

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

2 The school has an adequate amount of technology for me to use

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

3 I would like more of my teachers to integrate technology into their lessons

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

4 The school needs to update and add more technology for students to use

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

5 The use of technology in my learning will help me better prepare to be a 21st century learner

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

Professional Development Survey

Subject of Professional Development: _____

Date: _____

Directions: Respond to each of the following statements/questions1 My understanding of this topic **before** this professional development was:

| | | | | |
|----------|-----|----------|------|-----------|
| Very low | Low | Moderate | High | Very high |
|----------|-----|----------|------|-----------|

2 My understanding of this topic **after** professional development is:

| | | | | |
|----------|-----|----------|------|-----------|
| Very low | Low | Moderate | High | Very high |
|----------|-----|----------|------|-----------|

3 The chances of me immediately(within the next week) implementing today's topic into my teaching are:

| | | | | |
|----------|-----|----------|------|-----------|
| Very low | Low | Moderate | High | Very high |
|----------|-----|----------|------|-----------|

4 What would prevent you from implementing today's topic into your lessons? Circle all that apply

I need more training

I don't have access to the necessary technology

Lack of IT support

Lack of administrative support

I don't want to

Other: _____

Student Survey Grades 6-8 TIP Implementation

Directions: Please respond to the following questions to the best of your ability. Your responses will help improve the use of technology to support teaching and learning in the school. Return the completed form to your homeroom teacher.

1 In what grade are you?

6th

7th

8th

2 How do you use technology to support your learning?

3 What technologies are available to you at school?

4 My teachers use technology to support their teaching and my learning. (Circle One)

| | | | | |
|--------------|----------------|------------------|------------------|---------------|
| Almost never | Not very often | Some of the time | Most of the time | Nearly Always |
|--------------|----------------|------------------|------------------|---------------|

5 Identify the classes that use technology to support your learning

6 What is the most important change/addition you would like to see to the school's technology use?

Student Survey Grades 3-5 TIP Implementation

Directions: Read each of the below questions carefully. Circle what you believe to be the best answer. Your answers will help to improve the school's use of technology for teaching and learning.

1 In what grade are you?

3rd

4th

5th

2 What technologies do you use in the classroom? (Circle all that apply)

| | | | |
|------------------|--------|------|-------------|
| Desktop Computer | Laptop | Ipad | SMART Board |
| Other: _____ | | | |

3. My teachers use technology to support their teaching and my learning (Circle One)

| | | | | |
|--------------|----------------|------------------|------------------|---------------|
| Almost never | Not very often | Some of the time | Most of the time | Nearly Always |
|--------------|----------------|------------------|------------------|---------------|

Post-TIP Teacher Evaluation

Directions: Respond to each of the following statements about the technology integration plan and its successes and challenges over this school year.

- 1 The professional development I've had on technology integration has been useful to me

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

- 2 My understanding of how to integrate technology into my teaching has risen this past school year.

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

- 3 I have access to the technology necessary to integrate technology into my teaching

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

- 4 I have integrated technology into my teaching more than I did last year

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

- 5 I feel supported by my administration in the use of technology integration

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

- 6 My technology-related lesson plans are appropriate according to the Michigan Educational Technology Standards?

| | | | | |
|-------------------|----------|-------------------------------|-------|----------------|
| Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly Agree |
|-------------------|----------|-------------------------------|-------|----------------|

Resources and References

[Common Core State Standards](#)

ISTE [NETS-S](#) for students and [NETS-T](#) for teachers

Michigan standards for students [METS-S](#)