



***Educational Program Evaluation***

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***The Partnership for Technology Professional Development (PTPD) Project  
Final Report***

**INTRODUCTION.....2**

**PROJECT STRUCTURE.....2**

**PROJECT GOAL.....2**

**EVALUATION METHODOLOGY.....2**

    EVALUATION QUESTIONS.....3

**FINDINGS.....4**

**PARTICIPANT DEMOGRAPHICS.....4**

    PRE-PARTICIPATION SURVEY.....4

    POST-CLASS SURVEYS.....5

**FINDINGS.....7**

    EVALUATION QUESTION ONE.....7

    EVALUATION QUESTION TWO.....8

    EVALUATION QUESTION THREE.....9

**AREAS FOR FURTHER CONSIDERATION.....9**

    TECHNICAL ISSUES.....10

    REGISTRATION AND ORGANIZATIONAL ISSUES.....10

    STUDENT RETENTION.....10

    COURSE DELIVERY METHODS.....12

**CONCLUSION.....14**

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# Introduction

## Project Structure

The Partnership for Technology Professional Development (PTPD) was funded by the Massachusetts Department of Education (MA DoE) through the No Child Left Behind, Title IID, Enhancing Educational Through Technology (EETT) funds. The competitive grant was awarded to Worcester Public Schools to partner with three providers to offer six online professional development courses for Massachusetts' teachers and administrators: The courses were created by The Center for Applied Special Technology (CAST), The Massachusetts Elementary School Principals Association (MESPA), and Virtual High School (VHS). During the 2006/2007 school year, each provider made two classes available to PTPD participants through the MA DoE's MassONE system for three course sessions: December – February, March – May, and June – August. PTPD course providers contracted with area colleges to make graduate credits available for a small fee to those course participants who were willing to complete graduate credit course requirements.

MA DoE supervised the first registration period for Session One courses, and PTPD course providers supervised the registration for subsequent sessions. Some courses did not reach the target enrollment of 25 participants, while others exceeded this number and required the creation of wait lists. Altogether, the project offered six courses - 21<sup>st</sup> Century Literacy Skills for Teachers, Creating Assessments Using Online Tools, UDL in the General Education Curriculum, Teacher Tech: Digital Media in the Classroom, Principles of Curriculum Design, and Leadership for the 21<sup>st</sup> Century: Teaching, Learning, and Technology.

## Project Goal

The PTPD project oriented its work around one overarching goal:

- To provide high-quality technology professional development using MassOne that will promote student learning, improve teaching practice, and provide districts with capacity-building solutions through use of innovative educational practices.

This goal was articulated in the MA DoE's original request for proposals for the PTPD project and was further refined by the consortium of MA DoE staff and service providers that assembled to conduct the PTPD work.

## Evaluation Methodology

Sun Associates served as external program evaluator for the PTPD project, collecting data, and reporting both formatively and summatively to project management. At a series of initial project meetings, MA DoE, course providers and evaluators from Sun Associates created three evaluation questions and indicators for assessing the project's progress toward meeting its overarching goal. These three questions provided the basis for actual data collection questions – surveys, focus group protocol, interview questions – which Sun Associates used to gather data from course participants and providers. For all course sessions, the evaluators administered a pre-class survey that was posted on each class

website. The evaluators attended face-to-face sessions conducted for the four hybrid classes and “lurked” in the online activities of all the classes. Email interviews were conducted for all non-persistent students (i.e., those who dropped the course prior to completion), as well as instructors and administrators. During the last week of class, a post-class survey, again through the MassONE class websites, was administered to all persistent PTPD class participants. At the end of each class session, Sun Associates evaluators conducted focus groups. Summative reports detailing the results of the pre and post class surveys, focus groups and interviews were created for the Ma DoE and were shared with the class providers at the conclusion of each class trimester.

## **Evaluation Questions**

The three evaluation questions established for the PTPD project were:

- To what extent have teachers planned to promote student learning and improved their teaching practices through their participation in online PTPD courses?
- To what extent have the PTPD online courses provided districts with capacity-building solutions to increase teachers’ online skills?
- How effective has team participation in online PTPD courses been in increasing the integration of online activities in Worcester classrooms and promoting the use of innovative educational practices?

# Findings

## Participant Demographics

### Pre-Participation Survey

As noted in the Methodology section, the evaluators conducted a pre-class survey of all enrolled students each trimester. Comparison of this data highlights some interesting differences between the three cohorts of students. The evaluators find that students from one session to the next had more experience with MassONE and online learning in general. The first cohort felt most strongly that they had the necessary technical skills to take an online course, even though this cohort had the least experience with online learning or MassONE. The third cohort had the fewest participants who were new to online learning and new to MassONE, yet the first cohort felt most strongly that they were technically prepared to take an online course.

In session one there were 86 respondents to the pre-class survey, or a calculated response rate of 90%, in session two there were 88 respondents or a response rate of 100%, and in session three there were 83 respondents or a response rate of 89%.

The three cohorts had similar access to the Internet:

Question:	Session One	Session Two	Session Three
• Have DSL or High Speed Cable Access to the Internet	86%	88%	95%
• Access the Internet from Home and School	94%	90%	91%

However, there were some significant differences in their familiarity with MassONE, their previous online experience, and the perception of their personal technical skills.

• New to online learning or have taken only one or two online classes	71%	69%	60%
• New to MassONE	64%	52%	46%
• Have necessary technical skills to take an online course	91%	72%	85%

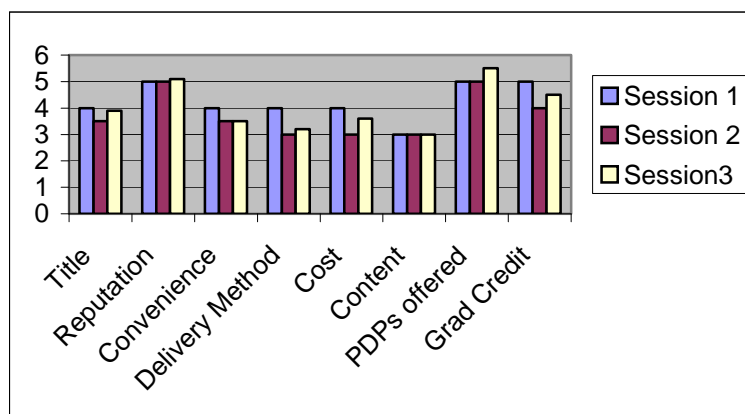
## Post-class Surveys

The evaluators also conducted a post-class survey of all persistent students. This survey asked both open-response as well as scaled-ranking questions. In the open-response questions, students reported that they found their instructors to be knowledgeable and responsive, and that they were happy with the amount of face-to-face interaction in their courses. When asked if they felt their school districts should offer courses to faculty and staff through MassONE, part of the goal of the PTPD project, a majority of participants responded “yes”, and commented on how valuable these courses would be to their peers. The majority also felt that their school districts should use MassONE to offer online resources and hybrid courses to their students, although many mentioned that this would depend on the age level of the students. The students also said that, based on their participation in a PTPD course, they had developed plans to implement new teaching practices in their classrooms.

In addition to open response questions, the post-class surveys asked a series of multiple-choice questions. The graphs below illustrate these results. As the first graph shows, students in all three sessions indicated that PDPs and graduate credit for these courses were the most important factors in deciding to register for a PTPD course. The next important factor was the reputation of the organization/presenter offering the course.

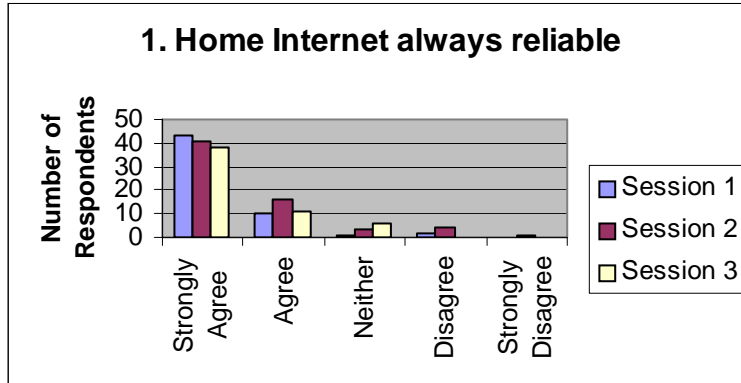
Graphs 2 and 3 show that a majority of respondents either strongly agreed or agreed that their home and/or school Internet access was always reliable. As illustrated by Graph 4, although a majority of all students did feel that MassONE was always reliable, fourteen students (out of sixty-five) in the second session disagreed or strongly disagreed with that statement. Graph 5 indicates that students in all three sessions felt they could “navigate through MassONE to reach all the components of my PTPD course”, and Graph 6 shows that students in the PTPD courses would recommend their course to a colleague.

### **Rank the factors that influenced your decision to register in this course. (1 greatest to 8 least)**

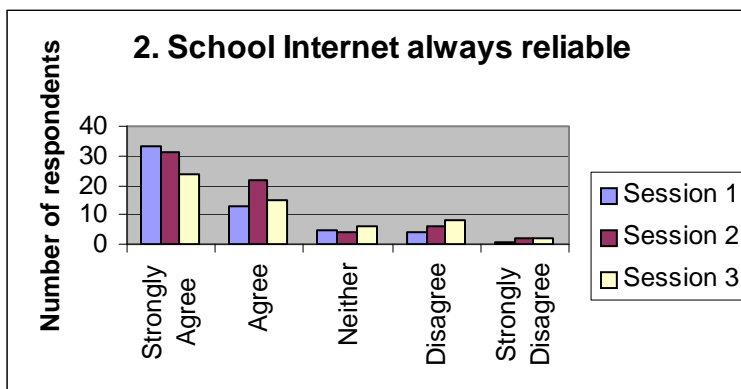


Graph 1

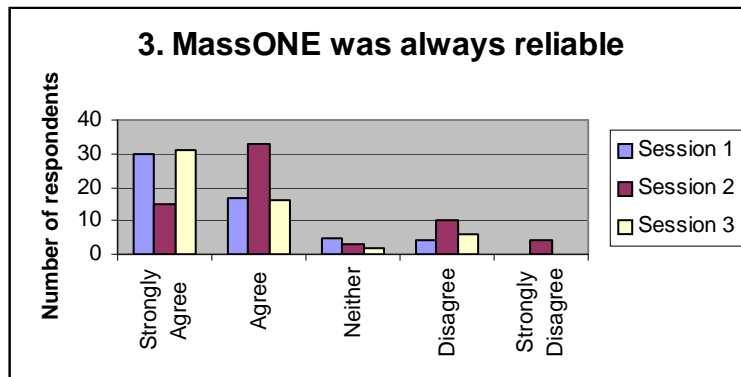
Please indicate the degree to which you agree with the following statements.  
 (Session 1 responses are in blue, Session 2 red, Session 3 yellow)



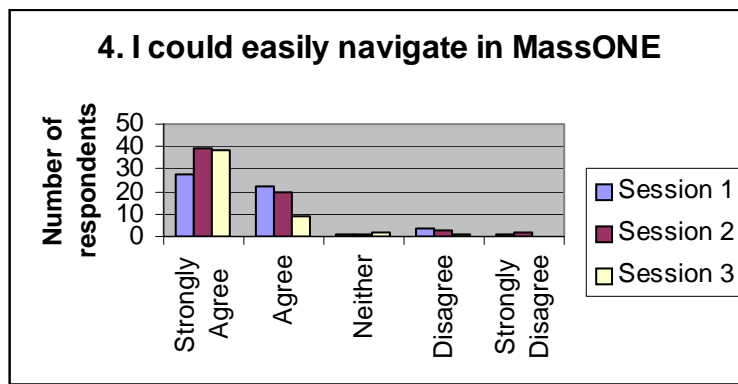
Graph 2



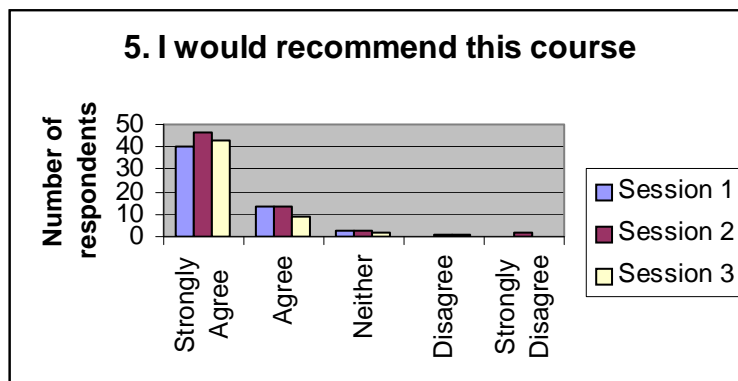
Graph 3



Graph 4



Graph 5



Graph 6

## Findings

### Evaluation Question One

*To what extent have teachers planned to promote student learning and improved their teaching practices through their participation in online PTPD courses?*

The majority of PTPD students felt that the courses directly impacted their classroom practice, and that the “course work was worthwhile and applicable to today’s classroom environment.” When asked to describe their plans for implementing the “new teaching practices” acquired through their PTPD course experience, typical student responses included:

- *I plan to incorporate many more types of on-line activities and assessments such as WebQuests; on-line quizzes and projects that we shared.*
- *I've already started a language arts unit using the new learning that I've acquired in the course; beginning with essential questions and assessing the skills I'd like the students to learn.*
- *I have developed plans to implement in my classroom. As a culminating project, I created a lesson plan that will take my students through creating a class newsletter bi-weekly using the computer. This was exciting to create and I can't wait to implement it!*
- *Yes, I plan to use the lesson plan that I created on computer terminology. I also plan to have my students podcast – something I learned about in this class. I am also changing several of my lessons so I can provide alternate ways of presenting the lesson and give students more choices.*

- *Yes, I have developed and used on-line activities for Poe studies and have made new rubrics. I also plan to make more on-line activities and some web quests.*
- *As soon as I started this course, it affected the way I thought about students and learning. I plan to offer Assistive Technology such as video, audio and projection as part of my lesson plans.*
- *Yes, actually, tomorrow my lab is to have the kids visit a site on Internet safety that I found during my course.*
- *I have developed plans to implement new teaching practices in my classroom. Through this course one of the things I have done is to create a classroom webpage.*

These and other similar responses suggest that PTPD students who completed their courses felt that they had increased both their technical skills and content knowledge.

While students clearly have plans to implement the various activities they learned about and developed in their PTPD courses, it is less certain whether this constitutes “improved teaching practice”. It is certainly possible that such improvement has occurred; yet it will require actual classroom observation and a specific assessment of teacher (PTPD participant) practice to determine the extent of improvement. Although it was not possible to conduct such an assessment in this pilot project, the evaluators recommend including this as a component of the next iteration of the project.

## **Evaluation Question Two**

***To what extent have the PTPD online courses provided districts with capacity-building solutions to increase teachers’ online skills?***

As a pilot program, it is unclear as to whether the PTPD project provided districts with “capacity-building solutions through use of innovative educational practices”. What is clear is that one district, Worcester, did actually develop online courses using MassONE. In this way, with Worcester, PTPD project modeled the use of MassONE as a possible “solution to increase teachers’ online skills”. Worcester teachers who had participated in PTPD courses took an additional required online course called “Building a Professional Development Course Using MassONE”. The district subsequently created five online courses that were offered to the entire Worcester faculty in the summer and fall of 2007.

The evaluators found that, except for Worcester teachers, it turned out not to be possible for teams of teachers from one school to take a PTPD course together. Many participants felt that the courses would have been more effective if “multiple people from the same district” could have taken the courses together. Some complained about the registration process, “We tried to put a team together in our Middle School, but we were not able to actually register as a team, and many people did not get into the courses they tried to register for.”

The evaluators concur with participant opinion. If it had been possible to register as school or district teams, PTPD would have been better able to meet its goal of “building capacity” at the local level. As it is, PTPD provided solutions to single students, but did not address “district” needs that went beyond these individuals.

In the next version of the PTPD project, called POPD, more local school districts will be given the opportunity to follow the example set by Worcester in PTPD. Courses offered through POPD will be a

joint effort between course providers and local school districts, and will allow *teams* of teachers to enroll.

### **Evaluation Question Three**

**How effective has team participation in online PTPD courses been in increasing the integration of online activities in Worcester classrooms and promoting the use of innovative educational practices?**

The Worcester School District partnered with course providers to offer the PTPD online courses to all K-12 teachers in the Commonwealth of Massachusetts. In addition, as part of their participation in PTPD courses, Worcester teachers were asked to work in teams to create courses that would be delivered via MassONE to the Worcester school district in the summer and fall of 2007. Five teams were formed under the direction of Brenda Dubrey who taught a required online course for these participants called “Building a Professional Development Course Using MassONE”. As a result of this collaboration, four courses for Worcester teachers were created as well as a student orientation for the Worcester High School Library.

The professional development courses created by Worcester teachers were: *Effecting Differentiation in K-6 Classrooms*, taught from June 18 - July 16 for K-6 Teachers, *Simple Methods to Integrate Technology into the Classroom*, taught from June 15 - June 29 for all teachers, *Today with Everyday Mathematics*, taught from June 15 – June 29 for all teachers, and *Using your students MAP test results to focus your lessons*, taught from June 18th to June 21st. and will be taught again from August 20th to September 21<sup>st</sup>. The Library orientation was designed to help students more fully utilize the resources available to them in both print and non-print media. The evaluators lurked in these online courses and were impressed by both the course content and by the interaction of the course participants in the forums.

Brenda Dubrey, facilitator of the Worcester project, said:

*Worcester was able to achieve its goal of having people participate in the courses offered in MassONE and then design, develop, upload and teach their own courses. Since Worcester Teachers found it easier to take Completely Online Courses - that was one of the reasons that they chose to develop their Professional Development Courses completely Online.*

The courses were taught in the summer and fall of 2007 as professional development courses for the Worcester school district. The expectation is that as a result of participation in these courses, there will be an increase in the integration of online activities in Worcester classrooms this fall as well as an increase in the use of innovative educational practices. It is too early to determine if, in fact, such increases will be realized.

### **Areas for Further Consideration**

In reviewing PTPD project evaluation data, the evaluators have identified some specific areas where project performance could have been stronger. Attention to these issues could improve the overall experience for participating teachers in the future, and could enable the project to more fully achieve its goal. The following information is presented with the intention of informing the next iteration of PTPD – POPD – that is already well into its planning stage and is slated to be launched during the 2007/2008 school year.

## **Technical Issues**

A few students identified problems navigating through MassONE, and several felt that the format of postings in the forums made it difficult to follow their classroom discussions. Further, students and instructors alike were frustrated that MassONE often “timed out” when they were logged in for any significant period of time.

While not entirely a technical issue, students disliked that the courses “disappeared” from MassONE shortly after the course ended. As one student noted:

*Once someone takes an online course, they should have access to it for a while, since we will need to keep going back and referring to it as we teach – or there should be a way where all the files can be archived and available as a download so that we can view them offline for future use.*

Most of these issues should be addressed in the next version of PTPD, called POPD, since the Management Learning System will switch from MassONE to Moodle. The project administrators will have to decide how and if courses will be archived for future reference, and must determine if Moodle will “time-out” if MassONE is used as its portal.

## **Registration and Organizational Issues**

Many students felt that the courses would have been more effective if “multiple people from the same district” had taken the courses together. Others complained about the registration process, “We tried to put a team together in our Middle School, but we were not able to actually register as a team, and many people did not get into the courses they tried to register for.” Since the POPD courses will originate from local school districts, administrators from these districts should encourage teams from local schools to enroll in the classes.

As the project progressed, the registration process moved from the Mass Department of Education for the first session classes to the course providers for the second and third sessions. This seemed to be a change that benefited students. As Donna Scribner from VHS noted:

*The process of enrolling participants became much more streamline and easier when we were able to handle it in-house. Also, the fewer the constraints on who could attend, the better we were able to service our ‘clients’.*

The evaluators note that POPD courses will continue this streamlined approach by registering students through the course providers, instead of the DoE.

## **Student Retention**

The evaluators found that retention for all courses was an issue; however, fully online courses lost the fewest students during the class sessions, while hybrid classes with the most face-to-face sessions lost the most.

When asked why they had not completed the free PTPD classes in which they had enrolled, most students cited personal issues such as family illnesses, other commitments, and not having enough time to give the course the attention it deserved. Very few cited problems with technology or MassONE.

During one focus group, persistent students were asked why they felt other students had dropped out of the courses. They had several hypotheses:

- I think some people think they can get away with less work in an online class, but that is not true.
- There may be less investment when there is no face-to-face contact, and since it is free, it is easy to opt out if a person would rather not bother doing the work
- I think some people are overwhelmed by the work – you have to be more organized with this format than just showing up in a physical classroom one or two days a week.
- I have a suggestion that might have worked for me – there might be less of a dropout rate if people could take an audit or pass/fail option.
- Maybe people have signed up not realizing what they had signed on for. I have gone online and had some difficulty signing up for a class, and actually signed up for the wrong one once.
- I think it is a combination of if it is free, people have less to lose, and they also probably did not realize how much work would be involved.
- I think some of those teachers who dropped out are afraid to try something new, and they lacked tech. support.

Overall, the evaluators find that this first iteration of the PTPD program did have retention problems. Since their local schools will administrate the new POPD courses, participants may feel more obligated to complete them. It will be up to the evaluation of the POPD program to test this hypothesis.

## **Course Delivery Methods**

From an examination of enrollment data, it is clear that courses delivered entirely online attracted more students, and, as retention rates indicate, had more students actually complete the coursework than the hybrid courses. Two of the courses, 21<sup>st</sup> Century Literacy and Creating Online Assessments, developed by VHS, were offered online with no face-to-face sessions. Two of the courses, Universal Design for Learning and Teacher Technology, offered by CAST, had one initial face-to-face session, and then three synchronous sessions using iVocalize software. The two courses offered by MESPA, Curriculum Design and 21<sup>st</sup> Century Leadership, had three face-to-face sessions. The more face-to-face sessions that were offered, the lower the retention rate was for each course

### **Online**

The evaluators found that students strongly indicated that online courses provided them with the flexibility to be able to “work on my own schedule”. They appreciated that they had instant access to the class resources and materials at all times, and that the interactions between course participants were of high quality. Susan Hargrave, from the Mass DoE, asked instructors and students what they liked about online courses and they responded:

- The written response that is offered in this type of class takes longer to process and record, so it is thoughtful. A written response allows us to go back and revise our ideas for clearest presentation before we post them; the spoken word offers less revision.
- So many teachers like myself enjoy the reflective nature of online communications. There is time to reflect and think about what has been written and how you will respond.

In the evaluators’ focus groups, participants noted:

- In a face-to-face class, I could have slept in the back row, and I still would have been counted as present. Online, either you post or you don’t, either you reference the readings or you don’t. There’s no place to hide.
- Online makes learning much more accessible to those who don’t have the time or ability to travel to class.

At the same time, participants also stressed the critical importance of keeping up with the readings and other assignments.

- It is easy to leave things for the last minute, but you find when you do you have NO breathing room and the very next day you have to start the assignments for the NEXT week!”
- Participants should realize there is a certain amount of self-discipline necessary in scheduling your time and embracing the flexibility of when you work on projects, while still meeting the needs of the entire group.
- A learner must realize that the tradeoff for convenience in an online course is going to be more work. It is almost all reading and writing, so a learner needs to make sure they can schedule time to do this work so that it doesn’t pile up and become overwhelming

## Hybrid

The evaluators found that students who took and completed hybrid courses were enthusiastic about having face-to-face sessions as well as online assignments.

- I think the face-to-face sessions made the online forums more comfortable
- I like the hybrid that incorporates traditional and online approaches
- iVocalize is better than in person face-to-face because you can “meet” together online without driving to a class
- It is nice to get together at least once, so you know who you are communicating with
- I have taken other online classes and really like the iVocalize sessions. It is great to be able to talk to classmates here and there throughout the course. I love this format!
- One of the major things I've learned is that I need the face-to-face contact in order to remain accountable, stay motivated, and participate.

Some students said that they would have preferred a traditional face-to-face course, and had selected the hybrid because it offered some actual class meetings. But even those who said they preferred face-to-face classes acknowledged the difficulty in scheduling them.

- I liked the hybrid model because we did get to meet and spend time working together as well as having online communication. I know scheduling is always an issue for teachers and that’s what makes entirely online courses important, but if you can make a few class meetings I think it is worth it.
- While it is difficult to get free time that matches with other people's schedules, the classroom sessions were a rich learning environment. There is something about the dynamic of being in the same room that could not be duplicated in the forum.
- Adding (another face-to-face) session would have made a harder sell to the district administration for allowing time off from our teaching responsibilities to take this class.

Some participants indicated that they enjoyed the interactions between students and instructor in a traditional face-to-face course, and selected the hybrid courses for that reason. The PTPD pilot project offered an excellent combination of online and hybrid courses in an effort to meet the needs of all learners. Bob Tucker, course provider from MESPA commented:

*Participants (in MESPA hybrid courses) were unanimous expressing support for being able to engage with other teachers/administrators around a table in a free exchange of ideas, being able to see the passion, enthusiasm, frustration, humor, and body language that humanizes the learning experience in a way that on-line can not.” He feels “some portion of these courses should continue to be face-to-face, despite the limitations of teachers/administrators being able to get away from their classrooms/school.*

Clearly when participants selected their courses they were aware of the delivery methods available; however, retention rates indicate that they did not always select a delivery method that best suited their learning style. As K-12 teachers in Massachusetts become more familiar with online and hybrid courses, they should be better able to select a delivery method that is best for their individual circumstances.

# Conclusion

In its first year, the PTPD project was successful in introducing hundreds of Massachusetts' teachers to online professional development. CAST, VHS and MESPA as course providers quickly created six courses that were well received by the overwhelming majority of participants. This project has been a learning experience for all involved. Course providers refined their course offerings from session to session and instructors found more effective ways to engage their students and to help them better utilize MassONE as a Learning Management System. Participants found PTPD professional development courses to be an effective way to improve both their content knowledge and their technology skills.

Despite some technical glitches with MassONE as the Learning Management System (LMS), the vast majority of students felt that their participation in PTPD was an overall positive experience. Participants found that the courses were meaningful and relevant to their classroom practice. Furthermore, it seems likely – as evidenced by the Worcester experience – that were the program structured to allow team registration, the project would have achieved its goal of demonstrating capacity building. The course developers for the PTPD courses will continue to enhance their course offerings in POPD, the next version of the project. This new grant will address the major concerns of both PTPD course participants and course providers.