

PROFESSIONAL DEVELOPMENT PLAN

OBJECTIVES —List the objectives of your plan.
<ul style="list-style-type: none">• Incorporate STEM in the library.• Build a network of STEM resources.
1. Professional Memberships —List the professional associations you have joined or plan to join. Example: MASL, ALA, AASL, ACLS, YALSA, IBBY, IASL. Identify their representative listservs and online resources you will use.
<p><i>AASL</i>. American Library Association, 2019, www.ala.org/aasl/. AASL offers information especially for school libraries. The included subscription Knowledge Quest and access to webinars provides for professional development on important topics for school libraries. Information on grants and conferences is also available. This organization provides lists of Best Websites and Apps that can be used in the library to support schools.</p> <p><i>ALA</i>. American Library Association, 2019, www.ala.org/. ALA offers current news, trends, and information on all library types in the country. Many resources are available such as grants, e-newsletters, magazine subscription, and conferences. The Center for the Future of Libraries topic includes a page on trends in libraries that provides information to topics such as robots and design thinking.</p> <p><i>ISTE</i>. International Society for Technology Education, 2019, www.iste.org/. ISTE focuses on education technology and learning in the digital age. As a member, monthly newsletters, weekly webinars, and access to Professional Learning Networks are available.</p> <p><i>Maryland Association of School Librarians</i>. MASL, 2014, maslmd.org/. MASL is specifically for school librarians in Maryland. Members have access to their newsletter, the annual conference, and Black-Eyed Susan Award information.</p>
2. Professional Articles and Books —Identify the journals you will read. Identify and annotate specific articles that will meet your professional plan. Identify and annotate new books.
<p>Journals: <i>Knowledge Quest</i> – Knowledge Quest is a professional journal sponsored by AASL that is published every two months. Articles include current trends in school librarianship as well as methods and theories.</p> <p>Articles: Bryant, Alice, et al. "THE NEW SCHOOL LIBRARY." <i>Principal Leadership</i>, vol. 15, no. 9, May 2015, pp. 22-25. <i>Education Database</i>, search-proquest-com.hoover2.mcdaniel.edu:2443/education/docview/1712287366/fulltextPDF/194398FC259240C9PQ/9?accountid=12333. A public school district and private school share how the library is supporting STEM. Resources, strategies, and projects are shared where the library has played a key role in STEM curriculum. These ideas can be used as a starting place to begin supporting STEM in any library.</p>

Kvenild, Cassandra, et al. "Making Friends and BUYING ROBOTS: HOW TO LEVERAGE COLLABORATIONS AND COLLECTIONS TO SUPPORT STEM LEARNING."

Knowledge Quest, vol. 45, no. 3, Jan./Feb. 2017, pp. 62-69. *Education Database*.

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com.hoover2.mcdaniel.edu:2443/education/docview/1857696658/fulltextPDF/D622E8C02BEA4D45PQ/1?accountid=12333.

The University of Wyoming Lab School reports its experience developing a collection and program to support STEM in kindergarten through ninth grade. From this article, I can learn about the successes and obstacles the school librarians had to prepare myself for similar ones as I purchase materials and work with teachers on curriculum.

Lamb, Annette. "Citizen Science Part 1: Place-Based STEM Projects for School Libraries."

Teacher Librarian, vol. 43, no. 4, Apr. 2016, pp. 64-69, 71, *Education Database*, [search-](#)

[proquest-](#)

com.hoover2.mcdaniel.edu:2443/education/docview/1831636350/fulltextPDF/E61C278F443D4ADFPQ/1?accountid=12333.

Citizen Science is when students participate in projects studying the world in their local area. Various projects that connect to the K-12 curriculum for life science, earth science, and physical science are listed and explained. These projects can be used in the library or to collaborate with content area teachers.

Books:

Hoffer, Wendy Ward. *Cultivating Stem Identities: Strengthening Student and Teacher Mindsets in Math and Science*. Heinemann, 2016.

When teachers have confidence and see themselves as mathematicians and scientists, they model positive behavior that students can follow. Students will feel empowered once they begin to develop a growth mindset and will take more risks in areas they might not normally. The information in this book will help me show students they can achieve in the areas of STEM and develop a STEM mindset myself.

Pard, Chantale. *STEM Programming for all Ages: A Practical Guide for Librarians*. Rowman & Littlefield, 2018.

Insight on how to begin a STEM program and fit it into the library curriculum with any budget is provided. Knowing library certification spans K-12, this book provides ideas from practicing librarians for all ages. A focus is given to community outreach and engaging unlikely groups such as girls. The budget friendly options will be helpful since money is usually tight in school districts.

3. Webinars, Websites, Social Networking—Identify and annotate the webinars you will take; the books you'll read. Identify and annotate the blogs and twitter accounts you'll follow.

Webinars:

Schmidt, Jim, et al. "Engagement Strategies for STEM Education." PCS Edventures, 26 Mar. 2019, edventures.com/blogs/webinar-series/engagement-strategies-for-stem-education.

Viewers will learn strategies to keep all students engaged in STEM activities. Background knowledge is given defining STEM as well as resources and unit suggestions. This webinar

will increase what I know about STEM to give me a strong foundation for such a program. I can take away ideas for lessons and materials to help build the library's involvement in STEM.

Smith, Julia. "Dreaming of STEAM: Hands-on Learning for Young Readers." Booklist, 4 Oct. 2018,

alapublishing.webex.com/ec3300/eventcenter/recording/recordAction.do?siteurl=alapublishing&theAction=poprecord&recordID=17834892&internalRecordTicket=4832534b000000049703fae98d649e04a3ef0268c9077e7e6f3e2c8dd4cb118d572c818d097aadff.

Ideas for a STEAM program are shared along with books that have STEAM connections. The STEAM program ideas I can use in my library with students and to plan with teachers. The books will help develop the collection to include STEAM topics.

Websites:

Code.org. CODE, 2019, code.org/.

This website provides lessons and projects that involve coding. Coding supports STEM in the technology and engineering areas. I will use information from this website to incorporate coding lessons into the library curriculum. Hour of Code is also explained along with tutorials on how to have this event in the school. I can host an Hour of Code for the school to support STEM.

CRS. Community Resources for Science. <https://www.crs-science.org/>. Accessed 23 Jun. 2019.

This website provides science lessons, information about the Next Generation Science Standards, and student literature for science. As a librarian, I can share this resource with science teachers to plan lessons together. I will educate myself with the information about the NGSS. Most importantly, the lists of books about science topics will help the library support STEM through literature.

STEM Activity Clearing House. Star Net, clearinghouse.starnetlibraries.org/. Accessed 23 Jun. 2019.

This website provides a collection of activities focused for librarians to use to incorporate STEM into their lessons. The collections are organized by various categories such as computational thinking and activities for Pre-K making it easy to find activities on specific topics.

Blogs:

"*Blog Topics*." *Knowledge Quest*, AASL, knowledgequest.aasl.org/category/blogs/. Accessed 23 Jun. 2019.

Knowledge Quest, which is sponsored by AASL, has a blog where writers post monthly about topics that are of interest to school libraries. With blog topics including STEM/STEAM, makerspaces, and technology, relevant and current information is at the fingertips of readers. Posts are made almost every day, so followers can read new entries immediately.

Defined STEM Blog. 2019, www.definedstem.com/blog/.

Articles are regularly posted by leaders in the education field that are passionate about STEM. Information in the articles cover various aspects of STEM from classroom activities to background knowledge and philosophies for STEM education. Reading about the activities

will give me ideas to see how the library can fit into STEM education and support teachers. Articles that provide thoughts and pedagogy for STEM will build my knowledge around the concept of STEM in schools and help me become an expert.

Miller, Matt. *Ditch That Textbook*. 2019. ditchthattextbook.com/.

Matt Miller is the author of this blog and is a Spanish teacher that believes in using educational technology purposefully with students. The blog is kept current with posts published every several days. Focusing on the T for technology in STEM, librarians can gain ideas to share with teachers or use themselves that incorporate technology easily into their lessons.

Twitter Accounts:

@TeachingSTEM. *Twitter*, twitter.com/TeachingSTEM. Accessed 23 Jun. 2019.

This handle on Twitter includes information for educators us implementing STEM. Articles related to STEM news are posted daily. Reading these articles will keep me updated on trends that are related to STEM.

@GreatMindsSTEM. *Twitter*, twitter.com/search?q=%40GreatMindsSTEM&src=typd.

Accessed 23 Jun. 2019.

This handle promotes STEM careers focusing on areas that are underserved. Information about their annual conference, articles about STEM education, and scholarship opportunities are examples of posts that are made. The articles provided are inspirational for students interested in STEM careers and provide background information to educators.

@CampSTEM. *Twitter*, twitter.com/CampSTEM. Accessed 23 Jun. 2019.

This handle focuses on coding and educational STEM programs for grades K-8. Project and activity ideas are posted for educators to use in their schools. As I build my knowledge about STEM and incorporating it into the library, I can use these activities or parts of these activities for classes I will teach.

4. Conferences—Identify and annotate the conferences you have or plan to attend.

“MASL Making Waves 2019.” MASL, sites.google.com/pgcps.org/masl-conference-2019/home. Accessed 23 Jun. 2019.

The MASL annual conference focuses on information for school librarians. Sessions give attendees hands-on experiences and resources to take back to their libraries. Maker space sessions have been popular, and demonstrations of technology integration is encouraged, both of which would benefit STEM. Since school librarians mostly attend, opportunities to build connections and expand professional networks exist allowing conversations of STEM activities.

“Common Ground 2019.” Common Ground, www.commongroundmd.org/. Accessed 23 Jun. 2019.

The Common Ground annual conference promotes best teaching in the digital age. A variety of sessions are offered that give educators opportunities to learn about many topics. With the focus on 21st Century education, improving STEM activities and curriculum should be

attainable with previous sessions that have focused on maker spaces as well as science and engineering.

5. Participation in School and District Committees, Data collection, research.

SIT – Being on the School Improvement Team will allow me to see the big picture of where the school needs and wants to grow. While on this team, I can collaborate with and support teachers to meet student achievement goals through reading and STEM activities.

STEM Committee – As a STEM Committee member, I can share what I am learning through my professional development plan with other faculty that have the same interests. We can work together to implement STEM instruction throughout the school.

Grade Level Meetings – Attending grade level meetings will advise me of units teachers are working on or have coming up. I can use the discussions to plan STEM lessons in the library that complement the content units and collaborate with teachers to plan units together.

OUTCOMES—What will occur as the result of this professional development? How does your plan support current school Improvement efforts? How will you, your students, and your school benefit?

Focusing on improving STEM in the library will expand my role as a librarian. The library will not only be a place to research and read books, but it will be a place to work on projects, create, and problem solve. My presence in the school will be seen beyond the library walls as I will increase my time to plan and teach with faculty in their classrooms.

STEM activities promote problem solving and critical thinking skills. These skills are necessary for students to succeed on high stakes tests. As students are involved in more STEM lessons and projects, they will improve their higher order thinking skills. With better practice on these skills, students test scores have a greater possibility of increasing.

Through STEM curriculum, the school prepares students for their futures. The 21st Century Skills of collaboration, critical thinking, creativity, and communication are applied that allow students to thrive in a global society.