THE ROLE OF THE SCHOOL LIBRARY LEARNING COMMONS
IN THE 21ST CENTURY

by

Colleen M. Mc Guane

An Abstract
of a research paper submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Library Science and Information Services
in the Department of Educational Leadership and Human Development
University of Central Missouri

December 2015
ABSTRACT

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Colleen M. Mc Guane

School libraries that serve as quiet study areas or book repositories are no longer serving learners in the K-12 school environment. Library learning commons provide a unique environment for students to create, play, and learn. This literature review explores the role of the library learning commons in K-12th grade schools and the influences of the learning commons on 21st century learning. Research regarding the creation of a learning commons, learning within the commons, and creativity and play in the learning commons will also be examined. In addition, this review looks at the role of technology and the virtual learning commons in enhancing learning. The final section of this literature review examines case studies of learning commons and illustrates the effects of learning commons on schools and learning.
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December, 2015

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UNIVERSITY OF CENTRAL MISSOURI

WARRENSBURG, MISSOURI
ACKNOWLEDGEMENTS

I want to thank my family for supporting me in my decision to go back to school to pursue my dream of becoming a librarian. I know that there were many hours I should have been involved in family activities, but I was busy studying or doing homework instead. I also want to thank the incredible professors at UCM who have pushed me to work hard, learn the ins and outs of school librarianship, and provide me the tools and guidance that I need to do the job well. I also need to thank the people who believed in me and gave me the opportunities to volunteer or work in the library field.
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CHAPTER 1
INTRODUCTION

Statement of the Problem

As school budgets are cut and reliance on technology grows, school libraries and librarians face the need to prove their relevance and need in 21st century education. Some school libraries are being transformed from silent study areas and book repositories to learning commons. The transformation to a learning commons has had numerous effects on the community, school, educators, and students. This literature review explores the role of the library learning commons in K-12th grade schools and the influences of the learning commons on 21st century learning. Research regarding the creation of a learning commons, learning within the commons, and creativity and play in the learning commons will also be examined. In addition, this review looks at the role of technology and the virtual learning commons in enhancing learning. The final section of this literature review examines case studies of learning commons and illustrates the effects of learning commons on schools and learning.

Purpose of the Study

The purpose of this research is to help the reader understand the role of the school library learning commons in K-12th grade schools and the influences of the learning commons on 21st century learning. This paper will look at the characteristics of the learning commons and how the learning commons provides a unique hub for students to play, create, and learn. Research regarding the creation of school learning commons, learning within the commons, and creativity and play in the learning commons will support the role of the learning commons in 21st century learning. This paper will also examine the role of technology and the virtual learning commons and their effects on 21st century learning as part of the learning commons. Finally, this paper will examine case studies which highlight the roles of the library learning commons on learning.
Research Questions

A library cannot simply be renamed a learning commons in order for changes to occur. Several characteristics come together to create a learning commons and provide support and engagement in 21st century learning. Within Chapter 2 I will answer three major questions regarding the learning commons. The following are the questions that guided the research presented within the paper:

1. What are characteristics of the library learning commons and its role in schools and in 21st century learning?
2. How does technology and the virtual learning commons impact schools and learning?
3. What have case studies found regarding the impact of learning commons on schools and on learning?

Limitations of the Study

For this study, a review of published literature was conducted by reading articles, case studies, and white papers which detailed the K-12 library learning commons. The limitations of the study included a limited number of peer-reviewed articles available through databases. Most of the research was compiled using two databases: Library, Information Science & Technology Abstracts with Full Text and Education Research Complete. Another limitation included the high cost of books or the inability to locate the books for research purposes within a region accessible by interlibrary loan. Limitations of the study also included the lack of case studies which examine the library learning commons. Case studies were limited to either traditional libraries, university learning commons, or chronicled the transformation to a learning commons and the effect the learning commons had on the students or school.
Finally, the fluid nature of the learning commons makes no two learning commons exactly alike. Ideas of what the learning commons should be are constantly changing making timely literature on the learning commons very important. Future researchers may want to focus on current literature and consult librarians and teachers about how the learning commons has affected their schools.

**Definition of Terms**

21\textsuperscript{st} century learning—Skills and knowledge that students need to succeed in school, work, and life which include life and career skills, learning and innovation skills which include the 4Cs (critical thinking, collaboration, creativity, and communication), and information, media, and technology skills (*Framework* n.p.).

Assistive technologies—“Any device that assists you as a human in working in the world of information or in the real world. For example, hearing aids, magnification, search engines, text to speech, etc.” (*The New Learning Commons* 233).

Build pedagogy—The effect that design and designing of learning spaces has on the ability to change the ways that learners and teachers “engage with each other and with cognitive, relational and material experiences of learning” (Willis et. al 2).

Curriculum—Courses offered in an educational environment.

Digital literacy—“The ability to understand, evaluate, create, and integrate information in multiple digital formats via the computer and Internet” (*Standards* 118).

Flexible schedule—“A schedule developed on an as-needed basis in response to teacher requests and curricular requirements” (Toor and Weisburg 211).

Innovation—Act or process of introducing new ideas, devices, or process.
Inquiry skills- The ability for student to find and use a variety of sources of information and ideas.

Learning commons- Concept introduced by David Loertscher and Carol Koechlin. A learning commons is a shared learning “space” that can be both physical and virtual. The learning commons is designed to move students to be engaged in exploration, experimentation, and collaboration. The learning commons allows users to create their own environments to improve learning (The Virtual Learning Commons 20). The focus of the entire learning commons concept is to move the school library into a central role for teaching and learning for the entire school (Loertscher and Marcoux 9).

Makerspace- Area where people can create, tinker, invent, and learn collaboratively.

Media literacy: Media Literacy is a 21st century approach to education which provides a framework to access, analyze, evaluate, create, and participate using messages in a variety of forms. Media literacy builds an understanding of the role of media in society, as well as essential skills of inquiry and self-expression necessary for citizens of a democracy (Center for Media Literacy 42).

Pedagogy- The art and science of teaching.

STEM or STEAM: STEM is the acronym for Science, Technology, Engineering, and Mathematics. Adding A to STEM creates the acronym STEAM when art plays a role in the elements for teaching these subjects (Toor and Weisburg, 213).

uTec model: Model which describes the developmental stages of creativity that occurs when people move from the passive phase of using a system or process to the final phases of creativity and invention (Loertscher, Preddy, and Derry 48).
Virtual learning commons: Digital learning community which is often an extension of the physical learning commons and is used to boost learning experiences (The Virtual Learning Commons 20-21).

**Research Design**

The literature review of this study focused on previously published information on K-12 learning commons. The literature focused on how learning commons were created, their effect on schools, students, and pedagogy, and aspects of the learning commons such as virtual learning commons, play, and Makerspaces. Literature also looked at how the learning commons has affected 21st century learning. The literature also focused on case studies which examined learning commons and their effects on learning and the school. Most of the research for this paper was compiled using two databases: Library, Information Science & Technology Abstracts with Full Text and Education Research Complete.
CHAPTER 2
LEARNING COMMONS

The Role of the School Library Learning Commons in the 21st Century

The library learning commons plays an integral role in schools by providing a unique center for students to play, create, and learn. This research review explores the role of the library learning commons in K-12th grade schools and the influences of the learning commons on 21st century learning. Research regarding the creation of a learning commons, learning within the commons, and creativity and play in the learning commons will also be examined.

Access to technology and virtual aspects of the learning commons provide unrestricted access for knowledge building. Research regarding the processes of the virtual learning commons, how the virtual learning commons represents the schools, how technology can enhance learning and the curriculum, and how the virtual learning commons enhances learning will also be included in this literature review. In the final section of this literature review, case studies of learning commons in the United States, Canada, and Australia, illustrate the effects on schools and learning.

Characteristics of the Library Learning Commons

The purpose of this literature review is to help the reader understand the role of the library learning commons in K-12th grade schools and the influences of the learning commons on 21st Century Learning. The library learning commons plays an integral role in schools and education by providing a unique center for students to play, create, and learn. Research regarding the creation of school learning commons, learning within the commons, and creativity and play in the learning commons will substantiate the role the library learning commons plays in 21st century learning.
The traditional school library, often thought of as a quiet place for students to check out books, is a thing of the past. School libraries are being transformed into library learning commons which are open spaces filled with functional and moveable furniture, technology, resources, and areas which foster and encourage creativity. Collaboration, discussion, and exploration are encouraged in the library learning commons in order for students to move out of their comfort zone and to be pushed towards higher level thinking. The concept of the learning commons is a fluid one; not a firm set of standards.

Ross Todd explains that a learning commons is the school’s virtual and physical space for inquiry, thinking, imagination, discovery, and creativity. In the learning commons, connections are made to a student’s knowledge and personal, social, and cultural growth. Todd also refers to the book, *The New Learning Commons: Where Learners Win!* written by Loertscher, Koechlin, and Zwann, who explain that in a learning commons, “the focus is on inquiry based learning journeys” and supporting “a school wide culture of inquiry fostering ‘habits of mind’ and ‘learning dispositions’ conducive to success” (Loertscher, Koechlin, and Zwann, qtd. in Todd 55).

In *Climbing to Excellence: Defining Characteristics of Successful Learning Commons*, Loertscher and Koechlin state that because of the active participation in knowledge by teachers, students, and a trained school librarian in the learning commons, the learning commons becomes the center for knowledge building, literacies, school culture, and experimentation (E7). The learning commons is a place where both students and teachers are in command of knowledge (Loertscher and Koechlin, E2). The flexible environment that the learning commons provides allows students to have access to technology and information, which encourages a community of participation. Collaboration between students and teachers encourages participation. The
learning commons is an environment that is constantly changing to meet the needs of curriculum, learners, and schools. The learning commons also serves students and teachers by providing a place for experimentation, playing, making, doing, thinking, growing, and collaborating (E3). Changes in curriculum, technology, and access to information affect how the learning commons will adapt to suit the needs of students and teachers (Loertscher and Marcoux 8). Both the virtual and physical learning commons is the learning hub of the school.

Characteristics of the learning commons vary according to the needs of the school. The learning commons can be integral to schools and education. One of the first middle school learning commons was built at the San Francisco Friends School. Jason Stone, the learning commons coordinator, and Chad Stephenson, the school librarian, while preparing to design the learning commons, determined that the new area would have to be home to the print collection, support new technology, build on the culture of reading, provide a lab model space so students could create and produce, as well as provide space to meet the learning needs of the entire community (45). Technology and library programs would support each other in this space and be home to the offices of the learning commons coordinator, the librarian, technology director, and educational technology integrator (45). The curriculum was examined and it was determined that a three-tiered system of information and media, technology, and innovation and creativity, best connected the learning commons to the curriculum (49). Extensive research was done to find the best possible layout and furnishings for the learning commons. Stone and Stephenson found that furnishings had a large effect on the usability of the learning commons; seating, tables, and fixtures had to be sturdy, lightweight, comfortable, and easily moveable in order to accommodate students wanting to work alone or collaborate (48). Quiet areas for reading were also added, as were moveable whiteboards, flip-top tables, bookshelves on casters, and a large outdoor area.
When the learning commons was finally finished and open for use, teachers used the learning commons as an expansion of their classrooms.

In the learning commons a wide range of elements come together to encourage learning and active participation. Bryan Sinclair refers to the design of learning commons as being constructed around five guiding principles: it is open, free, comfortable, inspiring, and practical (5). The open design of the learning commons refers to the space being unconfined and allowing for cross-disciplinary exchanges of ideas between students and teachers facilitated by flexible workspaces and wireless technology (5). Flexible workspaces and wireless technology allow students to work in an environment that quickly and easily adapts to their needs. A comfortable space allows the learning commons to accommodate all learners. An inspiring space should be dynamic and encourage creativity. The practical nature of the learning commons allows for work and learning within the environment.

When school librarian Shannon Hyman assisted in the design of the new elementary school learning commons at the school where she was librarian, three priorities guided the decisions that were made about the new space: people, flexibility, and durability (2). The space would act as a scaffold to support both formal and informal learning. Furniture that encouraged activity and ease of use was purchased (2). Decisions about the virtual and physical book collection were made by students and staff in order to provide a sense of ownership to the learning community (3). The learning commons also adopted a flexible schedule so that students and teachers could use the space at any time.

While learning commons attempt to fill the needs of every user, problems sometimes arise. Willis et al. presented their findings regarding how Australian teachers experienced new learning common spaces and how the new spaces influenced pedagogic practices. Included in the
findings, the researchers discussed problems inspired by the new library commons area and how the problems were solved. The findings are relevant because between 2009-2011, the Australian Government provided $3.6 billion in funding for the building of over 3000 school library projects (2). The findings provide evidence of the integral role that learning commons have on a school and education. These findings were shared at an international conference in 2013.

Willis et al. described how teachers who have a lack of knowledge or understanding of new technologies gain expertise. One teacher went back to school to learn about new technologies because she did not know where else she could go to learn how to integrate technology in her classroom. This additional education became an overwhelming undertaking for her. However, with her additional education in technology, when the learning commons opened a new green-screen room, she had the confidence to learn new ways that she could incorporate movie making into her classes and make movies with her students. Many teachers lack the time to learn new technologies. Supporting teachers in integration or assistance with technology is a role that the school librarian assumes by presenting professional development opportunities about how the technology or offerings of the learning commons work (5).

Willis also found that in the learning commons, librarians encourage students to move around and talk. Teachers were used to libraries having designated rules and spaces. The new physical layout and relaxed rules of the library learning commons provoked disequilibrium, yet enabled experimentation (5). When the new spaces were used freely, teacher innovation increased, as evidenced by the new pedagogies that teachers formed due to the learning common spaces (2). Changes in pedagogy were detailed in interviews recorded on iPads with administrators, teachers, school librarians, and students. Data sources also reflected on the
changes in pedagogy caused by the new learning commons spaces, and the perspectives of researchers who had visited the new learning commons also evidenced changes in pedagogy (3).

Teachers were also found to sometimes be resistant to collaboration in the learning commons. Building a collaborative culture with the students, first by assisting with finding a book or helping with an assignment, allowed the students to value the learning commons and what the librarians could offer. Teachers began to use the learning commons by sending students there to work independently, which served to build trust between the teacher and the student and the teacher and the librarian. Collaboration between the teachers and librarians was often technology centered and began to build after a culture of collaboration was built with the students (Willis et al. 5-6).

Willis et al. found that several cultural norms were disturbed by the learning commons. The library had been thought of in a traditional sense; as a place for silence, quiet study, and to check out books; but the learning commons is a place to seek information. It is a hub for anyone and everyone to meet, and a place for new opportunities and possibilities. Willis et al. found that one cultural norm which was difficult to change was challenging the community and teachers to break away from the traditional view of a library. In order for the view of the library to change and new pedagogies to take hold, the possibilities the new learning spaces provided had to be promoted by the administration (6).

The case studies that Willis et al. examined also found that openness and flexibility of the learning commons challenged the cultural beliefs some teachers held about learning. The mobility of the furniture in the learning commons was viewed as a distraction for the students and caused the students to act silly. Another teacher appreciated the mobility of the furniture, but felt that moving the furniture to enhance a lesson was time consuming. Resistance to the new
space lessened once teachers realized they share an ownership in the learning commons and began to feel comfortable with utilizing and experimenting in the new areas (7).

After Willis et al. considered the case studies from the new learning commons involved in their study, they found that students and teachers adjusted to the learning commons best when orientations included describing expectations and possibilities for students and teachers in the new area. Whole school discussions about the learning commons also proved to help with adjustment and ownership. Teachers became better adjusted and more comfortable when schools provided professional and personal learning to acquaint teachers with the learning commons (8).

Koechlin, Zwaan, and Loertscher emphasize that school librarians are school leaders and urge the administration to promote learning partnerships which inspire the best learning practices and share a common goal of improving student learning and achievement. Improved teaching and learning can take place by utilizing the expertise of the school librarian and the resources, technology, and unique spaces provided in the learning commons (3). Being in tune with the technology that students and faculty need, and then providing access to that technology in the learning commons, allows students to obtain and demonstrate 21st century skills. School librarian Pamela Harland explained that technology should be a tool for learning, not a barrier to learning. The focus on access to technology allowed Harland’s learning commons to become the center for innovative technology because teachers relied on the school librarians to be the local experts in technology. Researching trends in technology allowed the librarians to become experts.

The ability to find and use information is a major component of the 21st century learning that occurs in the library. Learners and technology come together in the library learning commons. Students become learners of digital, visual, textual, and technological literacies (Empowering Learners 5). Inquiry skills are developed that require students to assess their
background knowledge; question, locate, and assess information; and develop an understanding for a subject through learning. In the Learning Commons students think critically, come to conclusions, answer questions, find relevance, and evaluate the progression of the inquiry process (Koechlin, Zwaan, and Loertscher 5). These inquiry skills allow students to become independent learners and to develop an understanding of personal responsibility and self-assessment (Empowering Learners 11).

Willis et al. noted that the learning commons helped to improve the learning outcomes of individual students. Students were more focused and independent, collaborative learning skills were found to improve, and teachers had the ability to offer more individualized help to students (4). Learning commons are not only flexible spaces which help to accommodate the needs of learners and educators, but they are reflexive spaces which invite and promote ways that encourage learners to be engaged and tailor the learning commons experience to their own pedagogical needs (Willis et al. 7).

David Loertscher, an authority on library learning commons, argues that deep understanding is driven by learning that combines content and skills. These skills should be learned via collaboration between the classroom teacher and the school librarian. He makes the case that “reading skills, media literacy, critical thinking, and creative thinking are inseparably connected to content mastery and invention of new knowledge” (“Curriculum” 4). Loertscher also believes that as students develop their 21st century skills they ultimately gain understanding of an increasingly broad range of topics and gain the sense of confidence which allows them to believe they can learn anything (“Curriculum” 4).

Because of the strong pedagogical approach of the learning commons and 21st century learning, in June 2014, the Canadian Library Association released Leading Learning: Standards
of Practice for School Library Learning Commons in Canada. The document calls for a reinvestment in all school library facilities, programs, and staffing based on the needs of learners and the future of learning (Kirkland and Koechlin 1). Members from every province in Canada met to determine the best practices for the implementation and growth of learning commons as a whole-school approach. The Canadian Library Association determined the framework for a whole-school approach is to build a culture of participatory learning and standards that “guide the transformation of school libraries to create future-oriented hubs of learning, innovation, and knowledge creation” (Leading Learning 4). This new document calls for the goal of every school library in Canada to build communities that are creating knowledge; the physical and virtual learning commons are centered on learning and on making connections among learners (4).

Creativity, play, and the freedom to learn anything are vital aspects of the library learning commons. When elementary school principal, Ryan Steele, began to brainstorm what activities and experiences in the learning commons would be the most beneficial to the students at his school, the list included Lego robotics, Hexbugs, and a dramatic play area with puppets. As the learning commons began to come together, a 14-foot-long Lego wall showcased creations the students had made (15). Steele wanted the library to be an exciting center of learning and exploration.

Kurt, Kurt, and Medaille examine the definition of play and the work-play dichotomy that leads to creativity and innovation. Some of the article highlights the need for librarians to incorporate play into their professional work to spark creativity, but ultimately the article highlights the psychology and ideas that support play in the learning commons. Play has been defined as the antithesis of work (9). Play has been used to define almost every type of behavior that does not seem to serve an immediate and goal directed behavior (11). Play in the learning
commons is one aspect of how the learning commons has an integral role in schools and education.

Kurt, Kurt, and Medaille have found that one of the most important benefits of play is the impact that play has on the creative process and the integral role play has on innovation (9). When work is labeled as play, intrinsic motivation increases, performance quality increases, greater concern is taken when executing a task, and responses are more elaborate and image laden (10). Play encourages improvisation; new ideas suddenly come to the forefront during play because openness to new possibilities is encouraged. “Through play we stumble upon new behaviors, thoughts, strategies, movements, or ways of being. We see things in a different way and have fresh insights” (12). During play failure is acceptable, encouraged, and leads to new discoveries (13). Research indicates that play in an organizational setting aids five cognitive processes involved with creativity: mental transformations, problem framing, divergent thinking, the ability to evaluate, and practice with alternative solutions (15).

Thomas and Brown define play as tension between rules of the game and the freedom to act within those rules. When play occurs in a learning environment, passions, ideas, and information grow (18). Thomas and Brown explain that 21st century learning cultures emerge from and grow along with the environment (Thomas and Brown 37). This new culture of learning also focuses on learning through engagement within the world (38).

Makerspaces and the uTEC (Using, Tinkering, Experimenting, and Creating) Model in the learning commons encourage, recognize, and reward students who play, are independent, improvise, explore without assignment, and learn in an autonomous environment (51). When students create, they are moving up to the highest level Bloom’s Taxonomy (49). Loertscher, Preddy, and Derry believe that:
A Makerspace is an evolutionary step in library facilities’ design and programming. It is a destination for thinking, learning, doing, creating, producing, and sharing; a space that takes advantage of multiple learning styles. It is a place to reinvent old ideas with new conceptual frameworks, utilize advancements in thinking and doing, and investigate and construct a hybrid of fine arts, sciences, crafts, industrial technologies, foods, inventions, textiles, hobbies, service learning, digital media, upcycling, STEM/STEAM [Science, Technology, Engineering, and Math/Science, Technology, Engineering, Art, and Math], and DIY (do it yourself) and DIT (do it together) concepts. In these spaces, which can be physical and/or virtual, the intersection of formal and informal learning can include designing, playing, tinkering, collaborating, inquiring, mentoring, experimenting, problem solving, and inventing. Through actively engaging in the Makerspace, patrons take command of their own learning (48).

The uTEC Maker Model provides a four-stage visual representation of the developmental stages of creativity that occur as a person or group move from passively using a process or system to the final phase where something is invented or created. At the first stage, the using level, a user begins to engage in a new task, enjoying the engagement. Tools, programs, and devices, are used in a conventional, step-by-step manner. Users may become very skilled in using the new tool or resource, but they have not made an attempt to alter it in any way (49). At the second stage, the tinkering level, the tinker, begins to enhance the tool or resource in some way. Confidence has been gained through the User experience and now confidence has been built to attempt to modify the tool or resource which someone else has created. The Tinkering stage is a result of the User becoming bored with a conventional use or procedure (49). In the
third level, or Experimenting level, the Experimenter begins to completely repurpose the tool or resource into something new and learns from failures and successes as the project progresses. A new passion or goal is now emerging as hard work and dedication to the project drive the Experimenter (49). The fourth and final level, the Creating level, is where action, success, and independent thinking occur. Finally, something new and innovative has been created and the Creator can think about the possibilities and impact of his/her product (49-50).

Small, Meredith, and Meredith highlight the need for the learning commons to be innovative spaces and to provide resources which foster creativity. Research has found that creative students are often not supported by their classroom teachers, and teachers often dislike or disapprove of creative students (19). If money or space is not available to provide a makerspace area in the learning commons, innovation spaces, small spaces where innovation is encouraged or allowed, can help stimulate curiosity and inquiry in a supportive environment. Books, computer programs, games, and other resources which support innovation can be provided in these areas. The posting of thought provoking questions or ideas that promote brainstorming also helps to support creativity and innovation. Research has found that young innovators need mentors to encourage their passion and actively participate and guide their activities (19). School librarians are in a position to be mentors and supporters of creativity and innovation. The learning commons plays an integral role in schools and education by providing a unique center for students to play, create, and learn.
Technology and the Virtual Learning Commons

The learning commons is not limited to a physical area, but can also be a virtual area that provides unrestricted access to the virtual library and knowledge building. The physical and virtual library learning commons provides a center for students to play, create, and learn from anywhere at any time of the night or day. This research describes the aspects of a virtual learning commons, processes for expanding the virtual learning commons, how the virtual learning commons represents the school, how technology supports learning, and how the virtual learning commons enhances learning. Twenty-first century education has broken down the physical walls and thrust learning into cyberspace.

The Virtual Learning Commons (VLC) propels the learning commons idea into the online world by providing a platform for students and teachers to collaborate, learn, communicate, and build in real time (“The Virtual Learning Commons” 20). In an excerpt from their book, The Virtual Learning Commons and School Improvement, David Loertscher and Carol Koechlin explain the basics of building a VLC. The VLC provides a space for students, teachers, parents, and experts to come together and participate, learn, find tools, share, and build knowledge; the VLC serves as a ‘go to’ place and as a way to boost teaching and learning (21). When students and teacher have a sense of shared ownership in the VLC, this helps to encourage excellence and represents the culture of the school (21). Groups of contributors help build the VLC which will encourage a participatory culture (22).

Virtual teacher librarian, Pippa Davies, was instrumental in building a VLC. She was later asked to help design the school’s physical learning commons. Both virtual and physical places serve as information centers as well as centers for literacy, experimentation, and knowledge-building (17). The VLC was established first in Davies’ learning commons, and rules
were established to guide students as they conducted themselves in the virtual school environment. Davies explained that the reason teens today are constantly plugged in to technology is because their learning has shifted from understanding and learning as individuals, to learning and understanding as groups who interact socially and engage through a shared culture (17). In the VLC, peers guide or tutor each other through new concepts, media is shared, blogs are written and shared, collaboration takes place in chat rooms, and special events such as book clubs or digital photography exhibits take place regardless of the student’s physical environment. An e-library, databases, and webinars are also available as part of a VLC. Davies explained that assistive technologies and new materials are added to aid special education students in learning with multisensory devices along with materials that help to support students and their disability, such as dyslexia kits and books on learning differences (20). Koechlin, Luhtala, and Loertscher, emphasize that virtual learning experiences allow for differentiation and for almost every learner to meet or exceed expectations in a variety of formats (4).

Technology not only supports every learner, but there are times that technological knowledge allows the students to step in and support the teachers. School librarian, Karen Ramsey, noticed that when she allowed students who were part of the school’s youth tech committee to play around with the Smart Board and figure out problems, several things happened: students had fun, they used their creativity to solve problems, and the students followed through without being inhibited by the task. The students felt free to explore and learn the technology. Karen Ramsey wondered how this sense of freedom in regard to problem solving could be applied to teachers who dreaded solving technology problems (2). A student from the tech committee was paired with a teacher for one-on-one after school tech sessions. Teachers began to enjoy technological problem solving. The youth tech committee grew as students
presented a mini teaching session at a staff meeting and then introduced the idea of a professional development day for all the teachers and staff. Not only did the confidence of students increase, but the youth tech committee was able to affect 80 teachers and 1200 peers (3). Technology was able to give these students the opportunity to grow, learn, and confidently share their knowledge. This is an example of how the library learning commons plays an integral role in schools and education by providing a unique center for students to create, play, and learn.

A 2012 Alliance for Excellent Education report on technology and teaching noted that technology often allows students to push past their personal situations or opportunities in their geographic locations (12). Teachers also use technology and digital learning to improve the curriculum (10). Interest and relevance are increased by technology. Research tied to dropout rates cites a lack of interest and relevance to school. Access to technology increases interest in school subjects and adds relevance. Equity and access to technology reduce the dropout rate, prepare students for college and a career, and help to tackle the achievement gap by allowing a larger variety of course offerings, personalized learning experiences, credit recovery options, access to increased knowledge, digital content, learning content, and adaptive software (12).

“Dear Teachers: The Learning Commons and the Future of Learning,” by David Loertscher and Carol Koechlin reviews the results of a Canadian report which discusses the concerns that Canadian teachers have about technology and learning. Loertscher and Koechlin felt the need to address this study because they have heard the same concerns regarding technology and learning, voiced by teacher librarians around the world (51). They also address ways in which the learning commons approach can enhance students’ proficiency in digital literacy and ways that technology can heighten learning. The Canadian study found that students love working and playing on various devices like iPods, iPads, smart phones, and computers, but
access to the devices had not made them better learners. The Canadian study also found that students also lacked the skills to access networked technology. The students also tended to take what they viewed online as fact (51). Loertscher and Koechlin emphasized that school librarians teach students to question information and think critically about what they have encountered. In Canada, the focus was on why technology enhances learning, not how to use technology. Loertscher and Koechlin noted that teacher librarians embed technology in learning and have the skills to make a large impact on learning (51). The Canadian study also addressed the fear of disruption in the classroom caused by technology. The need for teachers to know how to manage and encourage collaboration and productivity in a busy, hands-on environment was addressed by Loertscher and Koechlin (52). Both, the physical and virtual learning commons play an integral role in schools by providing a unique center for students to play, create, and learn. Technology enhances the educational and collaborative opportunities that the learning commons offers.

**Learning Commons Case Studies**

Research on the library learning commons demonstrates the effect that the learning commons has on schools and education. They provide a unique place for students to play, create, and learn. Several case studies have been done that look closely at how the learning commons are transforming education.

In 2008 Valerie Diggs documented the transition of her school library into a library learning commons in order to provide a case study for drastic change in the school library concept. David Loertscher also helped co-write the case study by providing analysis of how school librarians move to the center of teaching and learning through implementing a successful learning commons. The learning commons was not only well received by the students, faculty, and parents, but by Diggs’ entire community. Major transformations began to take place in the
learning commons. Local businesses donated bagels, pastries, and coffee for a Wednesday morning student gathering in the learning commons. This activity allowed for the beginning of a transition toward a client-sided culture (4). Listening Lunches provided students the opportunity to have lunch in the library and listen to their peers perform skits, read poetry, sing, or showcase their other talents; this activity pushed fine arts into the culture of the learning commons (5). Socializing in the library promoted collaboration and networking. Inquiry-based units and projects took place in the learning commons and helped transform the culture of learning (7). An increasing number of classes and clubs began to meet in the learning commons. Televisions helped to showcase projects and talents that students would create or build upon in the learning commons; this also helped to build a sense of shared ownership (9). Diggs advises readers that when transforming a library into a learning commons, they must build their program first, although it may take years to accomplish, the culture of the library will begin to change (10).

Diggs is the head of school libraries in Chelmsford, Massachusetts, where the remodeling of Chelmsford High School library into a learning commons has received national attention. Paul Mihailidis authored a case study based on the Chelmsford High School learning commons’ transformation and media literacy education as the pedagogical foundation for the learning commons model. Media literacy promotes critical thinking skills by allowing students to access, evaluate, analyze, and produce information. By placing media literacy at pedagogical foundation the learning commons becomes a “dynamic media literacy learning hub, anchoring entire schools around knowledge, expression, collaboration, and creation in both virtual and physical spaces” (Mihailidis, n.p). At Chelmsford High School the focus was no longer on just providing access to information—but on providing a direction for learning how to become an active, engaged, expressive, and empowered media user. The pedagogical shift to media literacy not only caused
the culture of the school to change, but allowed the resources and budgets of the learning commons to be technology centered (n.p.).

“Theory and Research as the Foundational Elements of a Learning Commons,” by David Loertscher and Carol Koechlin, presents recently published research and theory which supports the learning commons concept. One aspect of research they discuss is the 2012 Alliance for Excellent Education’s white paper addressed the need for increased use of technology in schools to provide real-time data and assessments, adaptive software, online and digital content from multiple sources, and constant communication with students, parents, and anyone else involved in a student’s education in order to maximize learning potential. Loertscher and Koechlin assert that the learning commons provides just what the Alliance for Education urges: providing technology in learning experiences. They also assert that collaboration between the school librarian and teachers allows for excellent teaching (48).

The learning commons plays a substantial role in the transformation of a student’s education. A few studies have looked directly at the influence of the learning commons on education and provide supporting evidence as well as explore cases to highlight the impacts on learning (Willis et al., 2). In 2011 the Commonwealth Government drew attention to the lack of research on school libraries and school librarians in Australia. “Reimagining School Libraries: Emerging Teacher Pedagogic Practices” is the paper which focuses on seven schools in Queensland, Australia, how teachers experienced the new learning commons, and how the new spaces influenced their pedagogical practices (1). The study looked at the concept of built pedagogy, which emphasizes the relationship between the learning environment and the learning outcomes (2). Teachers and students still valued traditional lessons, but the new space allowed for more collaborative and inquiry-based lessons (4). Mobile furniture, glass walls, improved
access to technology, and a better overall physical space allowed teachers to provide more individualized help. Students became more focused and their independent and collaborative learning skills improved. Reading and inquiry skills also improved. The studies identified that “certain preconditions are necessary for new patterns of learning, or pedagogies to emerge in teacher practice. There needs to be a balance between equilibrium and disequilibrium, collaboration and space, and shared beliefs about learning that create new cultural norms” (4). All of these factors were brought to light in the case studies and discussed in the “Reimaging School Libraries” paper. Many of the factors that created disequilibrium and how this affected the school, were highlighted earlier in this literature review. Ultimately, the research found that the learning commons needs to support the teacher’s beliefs about learning, be flexible, and allow for experimentation. Teachers usually began using the learning commons after the students became users of the learning commons with guidance from the school librarian. Support from school administrators who vocalize the advantages of the learning commons also helped with getting teachers to begin using the learning commons. School wide discussions and learning opportunities also helped acquaint teachers and students with new learning common spaces (7-8).

The library learning commons is an area which supports the learning needs of all students in a 21st century environment. Essential skills can be taught and learned when the learning commons is situated as the center of learning. By considering all the information about how the learning commons influences learning, creativity, and play, as well as the effects of the virtual learning commons on education, and case studies, it is clear to see how the learning commons plays an integral role in schools and education by providing a unique center for students to play, create, and learn.
CHAPTER 3
CONCLUSION

This research paper describes how the library learning commons can play an integral role in schools by providing a unique center for students to play, create, and learn. The research described within this paper answers three questions. What are characteristics of the library learning commons and its role in schools in 21st century learning? How does the virtual learning commons and technology impact schools and learning? Finally, what have case studies found regarding the impact of learning commons on schools and learning?

The School Library Learning Commons in the 21st Century

The library learning commons is the learning hub of the school: there is no firm set of standards which defines what the library learning commons is due to the fluid nature of the environment that encourages change, openness, and flexibility from both the space and from the librarian. The library learning commons changes as the needs of the curriculum, learners, and schools change. It is a space that is centered on learners and the needs of learners. Functional furniture that is easily moved, wireless technology, and open spaces allow the learning commons to quickly change to suit the needs of teachers and students. Learning commons are not only flexible spaces which help to accommodate the needs of learners and educators, but they are reflexive spaces which invite and promote ways that encourage learners and develop an understanding of personal responsibility and self-assessment (Willis et al. 7).

The functionality and openness of the library learning commons, coupled with technology and resources, fosters and encourages creativity, play, and higher level thinking. In the learning commons collaboration, discussion, and exploration are modeled and promoted by the school librarian, teachers, and students. Due to active participation in learning by teachers, students, and a trained school librarian in the learning commons, it becomes the center for
knowledge building, literacies development, promoting school culture, and experimentation (Climbing, E7). The library learning commons also fosters inquiry and social and cultural development. Pedagogy and innovation have been influenced by the open, flexible, and collaborative nature of the library learning commons which also encourages open access, play, creativity, and the ability to learn anything.

Makerspace areas and the uTec (Using, Tinkering, Experimenting, and Creating) Model in the learning commons encourages and rewards students who play, are independent, improvise, explore, learn from mistakes, and learn in an autonomous environment (Loerscher, Preddy, and Derry, 51). STEM/STEAM, DIY, and DIT can also be incorporated when there is a makerspace area in the learning commons. Through actively engaging in a makerspace, students take command of their own learning (49). Activities in a Makerspace area include design, play, tinkering, collaboration, inquiry, mentoring, experimenting, problem solving, and inventing (48). When students create they are moving to the highest level of Bloom’s Taxonomy (49).

**Technology and the Learning Commons**

Technology in the learning commons is an additional tool for learning. Access to technology allows students to obtain and demonstrate 21st century skills, push past barriers created by their personal situations and limited opportunities in their homes and geographic location, and find increased relevance and interest in subjects that are school related or of personal interest. Equity and access to technology in the learning commons reduces the dropout rate, prepares students for college and career, and helps to bridge the achievement gap by allowing a larger variety of courses through online offerings, personalized learning experiences, credit recovery options, access to additional resources, digital content, and adaptive software (Alliance 12).
The library learning commons can be both the school's physical learning hub as well as their virtual learning hub. In the virtual learning commons, flexibility is provided by round-the-clock access to a variety of information and virtual meeting places. A virtual learning commons (VLC) allows students to access information and resources at any time and from any location. The virtual learning commons also serves as an educational hub of the school by encouraging and supporting learning. The VLC serves as a platform for students to collaborate, learn, communicate, and build in real time (“The Virtual Learning Commons” 20). In the 21st century, teens are constantly plugged in to technology because their learning has shifted from understanding and learning as individuals, to learning and understanding as groups who interact socially and engage through a shared culture (Davies 17). The VLC supports and enhances this shift in learning as well as promotes the learning commons’ pedagogy.

New knowledge and opportunities are available to both teachers and students through technology enhancing the curriculum. Interest and relevance of subjects has also been enhanced because of access to technology and the VLC. Students receive additional support in both the physical and virtual learning commons by accessing assistive technology or experiences which allow for differentiation. In the VLC, access to e-library collections, databases, and webinars enhance learning and provide additional access to resources to students. The VLC is also a place where students guide or tutor each other, media is shared, students blog or discuss issues, collaboration takes place, and special events such as book clubs or exhibits occur regardless of the student’s, teacher’s, or librarian’s physical location. The VLC provides a platform for students and teachers to collaborate, learn, and communicate in an open 24/7 forum.
Case Studies

Case studies have found that learning commons have been well received by students, faculty, parents, and communities and have had an effect on schools and education by providing a unique place for students to play, create, and learn. In some cases the learning commons is not just the hub of the school, but it becomes the hub of the community. How the learning commons is utilized helps determine the culture of the learning commons and the school. Socializing in the library promotes collaboration and networking. Inquiry-based units and projects that take place in the learning commons help transform the culture of learning. Classes and clubs that meet in the learning commons and utilize the flexible space allow for a promotion of shared ownership of the space. A pedagogical shift occurs due to the use of the learning commons and its influence on the culture of the school.

Several case studies conducted by the Commonwealth Government in Australia found that the learning commons plays a substantial role in the transformation of a student’s education. The studies examined the concept of a pedagogy, which emphasizes the relationship between the learning environment and the learning outcomes. The learning commons space allowed for collaborative and inquiry-based lessons. Mobile furniture, glass walls, improved access to technology, and a better physical space allowed teachers to provide more individualized and varied forms of support. Students became more focused and their collaborative and learning skills improved. The study also found that upon initial introduction to a learning commons, collaboration often began with students first; teachers then began using the commons after students had been introduced to it with guidance from the school librarian.

Another case study addressed the need for increased technology in schools. By providing more technology and access to technology via the physical and virtual learning commons, real-
time data and assessments was provided, students utilized adaptive software as well as online and digital content from multiple sources. Access to technology also provided constant communication with students, parents, and educators, and it maximized a student’s learning potential. The need for access to technology is supported by librarians and the learning commons concept.

The learning commons plays an integral role in schools by providing a unique center for students to play, create, and learn. This research review explored the role of the library learning commons in K-12th grade schools. It highlights the influences the learning commons has on learning in the 21st century.
WORK CITED


Davies, Pippa. "Engaging Students In The Heritage Christian Schools Learning Commons."


