

# ***EDITORIAL***

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## **Empowering Student Leaders Through Experiential Learning: *The Arsenal***

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Research and Scholarship**



Dr. Alex T. St. Louis is an instructor in the College of Education and Human Development as well as coordinator in the Center for Undergraduate Research and Scholarship. Her research interests include mentorship, understanding the nature of science, and improving scientific relations within the greater community. Dr. St. Louis loves working with undergraduate students, advocates for inclusion in science education, and finds great value in helping students learn research skills to become the next generation of leaders and scholars.

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### **INTRODUCTION**

*The Arsenal* is a peer-reviewed, open-access, interdisciplinary journal dedicated to publishing manuscripts from undergraduate researchers at Augusta University. The journal is the product of interdisciplinary collaboration between the Center for Undergraduate Research (CURS) and the AU Libraries.

In 2015, students at Augusta University began to express their desire to establish an undergraduate research (UR) journal, citing an increase in the UR culture across campus (Johnson et al., 2017). The first issue was published in the Fall of 2016. To date, there have been 19 published research articles and 178 published research abstracts from 204 undergraduate student authors (Center for Undergraduate Research and Scholarship, 2023).

*The Arsenal* is an example of a hybrid publishing model in which students and faculty work together to organize, publish, and maintain the journal (Hart, 2012). Students participating in this process are integral to the success and longevity of the journal, and this process acts as a form of experiential learning. Experiential learning is when an intentional experience creates knowledge (Kolb, 1984; 2012).

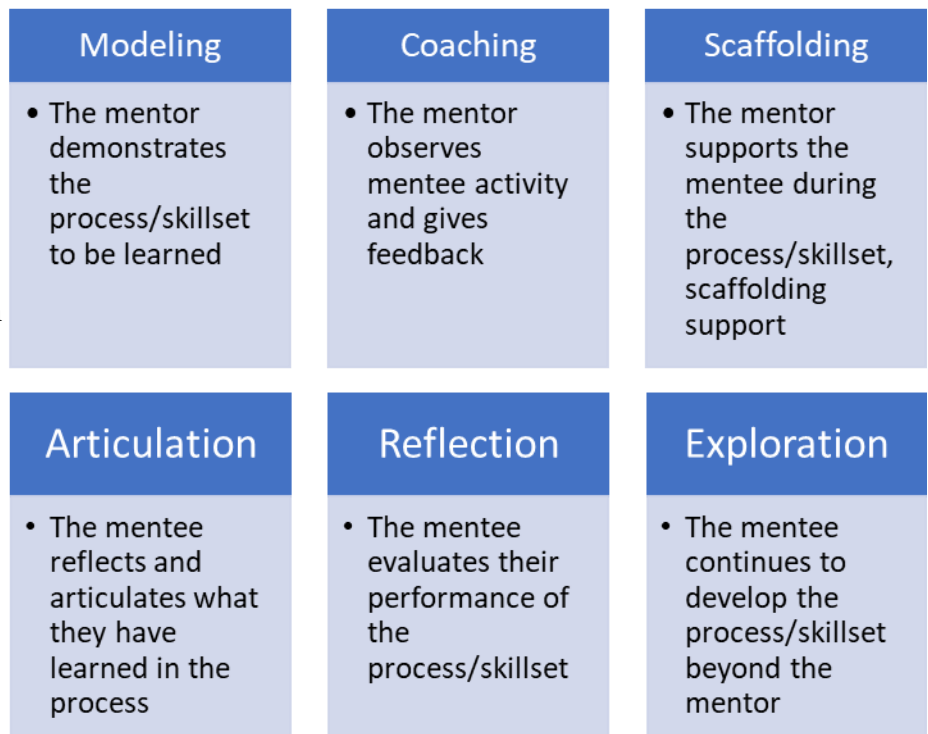
Katula and Threnhauser (1999) describe experiential learning in the undergraduate curriculum as a place beyond the norms of a traditional classroom where a student's intellectual growth can occur. The benefits of experiential learning transcend different stakeholders. Students benefit by developing 21st century skills (i.e., collaboration, communication skills (oral, listening, written), decision-making, personal responsibility, problem-solving, professionalism, and technology/digital literacy), gaining authentic, real-world experiences that apply to their future in the workforce while also improving academic performance; mentors benefit through increased and intentional pedagogy, filled with insights and connections that can be used to improve practice; and university systems benefit through an increased and enhanced reputation of providing unique and authentic learning experiences for students and potential increased graduate employment (Chan, 2023).

Multiple learning and educational theories support experiential learning. Collins et al. (1991) developed the Cognitive Apprenticeship Model, which supports novices' learning a skill set or practice from an expert. The model is broken down into six “strategies,” which, when utilized appropriately, allow for a novice to develop a skill: modeling, coaching, scaffolding, articulation, reflection, and exploration (Figure 1).

Modeling is the beginning stage of the Cognitive Apprenticeship Model. Students participating in experiential learning need a foundation and model of the practice or skill set that they will be learning. Mentors must demonstrate the skill(s) appropriately. Next, students get to put their skill(s) into practice. Mentors are still very much involved in this process, coaching students and giving direct feedback in order for the students to develop and hone their skills continuously. Mentors continue to scaffold support, pulling back or providing additional support based on the work completed by the student. The remaining three stages primarily focus on students' reflection on their participation and work. During the articulation phase, students reflect on their learning while being coached and scaffolded. The students continue to reflect on and evaluate their performance of the task at hand. In doing so, the students can continue developing their skills and practice through exploration and continued work utilizing the skills they have learned and implemented through practice.

Figure 1:  
Cognitive Apprenticeship Model

Note: Explanation of the Cognitive Apprenticeship Model. Adapted from Cognitive Apprenticeship by Dr. Serhat Kurt, 2021. <https://educationaltechnology.net/cognitive-apprenticeship/>



## EMPOWERING STUDENT LEADERS THROUGH EXPERIENTIAL LEARNING

During the 2022-2023 academic year, CURS revived the CURS Ambassador Program. The student ambassadors are an extension of the CURS mission, committed to advocating and promoting research to all disciplines and under-represented students. They attend CURS-sponsored events, guide students pursuing research, model research practices through presenting original research at various events, and serve on the Arsenal Student Editorial Board or as reviewers for the journal. Following the hybrid publishing model, we intentionally set forth to make the work on the Arsenal an experiential learning experience for the CURS Ambassadors.

Our office benefited from the fact that all our CURS Ambassadors had previous experience in UR and that they represented various disciplines across Augusta University's four campuses. The first cohorts of the revived program included students with majors and academic interests in art, biochemistry, biology, computer science, cyber security, elementary education, kinesiology, mathematics, nursing, and psychology. I had the privilege of serving as their mentor for reviving the journal and ensuring that the students learned about the publication process—beginning with writing a call for manuscripts and finishing with sending the accepted manuscripts to the library for publication. We appointed one CURS Ambassador as the student representative and liaison between the faculty and students. Tanish Kumar (B.S., Kinesiology '25) helped assist our office during this first year and laid the foundation for two students to take over as Co-Chairs for the current academic year, Vanessa Browning (B.S., Psychology '25) and Trinity Johnson (B.S., Kinesiology '24).

### THE PROCESS

Our student chair/co-chairs begin by creating and sending a call for manuscripts at the beginning of each academic semester. The Arsenal Editorial Board re-evaluated the guidelines and submission process and set forth explicit parameters for student authors while acknowledging that research and scholarship

can take different forms in different disciplines. Therefore, we welcome submissions that are 1) situated in the field, 2) make an original contribution, 3) clearly articulate the nature of the original contribution, and 4) convince the reading audience of the importance and interest of the research described (Center for Undergraduate Research, 2023b). The submissions can be a traditional scholarly research article or a feature article. The CURS Ambassadors learned first-hand the importance of having clear, communicated guidelines that serve as the standard for developing and publishing an intentional publication and ensured that the call for manuscripts accurately reflected the guidelines for the journal.

Once the call was placed, manuscripts began to be submitted via our online system, and the CURS Ambassadors received training on the journal's editorial process. Manuscripts for the Arsenal are not immediately accepted for publication; instead, they must undergo an extensive double-blind peer review process: the reviewers do not know the identity of the manuscript's author(s), and the authors do not know the identity of the reviewers. Our student chair/co-chairs were integral during this step, assisting with collecting and distributing blinded manuscripts to reviewers. The Arsenal enlists assistance from faculty on the CURS Faculty Advisory Committee and students serving as CURS Ambassadors to act as reviewers. Each manuscript is reviewed by at least three people, including one faculty member. Most of our students have never participated in a formal review process before, and modeling and coaching them through peer review was essential. I created a workshop that focused on the importance of peer review, the process, and the components of research manuscripts. This workshop allows the students to engage with the individual components of the process in an experiential setting to develop their foundation and participate in peer review.

The CURS Ambassadors learned valuable information, including how to use tracked changes in Microsoft Word (an important skill utilized in the real world and I realized was not necessarily formally taught in the curriculum).

The peer review resulted in feedback and critiques for the manuscript authors. *The Arsenal*

chair/co-chairs organize the reviews into one document to send to the student authors. The Editorial Board must also take the critiques from each reviewer and determine if the manuscripts fit the journal's scope and should be accepted. An important idea taught during this process was that academic writing can constantly be improved, and a reader should always ask questions and critique work. Constructive criticism is integral to progressing scientific and creative thought forward; without it, our academic disciplines would suffer greatly. Each first author received a decision letter, explaining the thoughts of the Editorial Board and the future direction of their manuscript. Most manuscripts were accepted with revisions, and the student authors were able to make changes to their writing and strengthen their overall work. Revised manuscripts were reviewed by the faculty and accepted. The CURS Ambassadors are the foundation of the Arsenal, emersed in the process from the beginning planning stages to the final acceptance of manuscripts to form a complete issue. Table 1 gives examples of the 21st century skills that the students develop through this experiential learning process.

## RELATIONSHIP TO AU'S STRATEGIC PLAN

Experiential learning experiences, like our students participating in the Arsenal, should not exist without structure or intentionality. They must be structured and rooted within a greater value or purpose. Our student's experience works in synergy with the university's strategic plan. Augusta University has five strategic priorities and three interwoven priorities for Creating a Legacy Like No Other: learning, discovery, student success, community, stewardship, and innovation, engagement, diversity/equity/inclusion (Augusta University, 2022). The examples and description of *The Arsenal* above provide concrete evidence that the journal experience serves as an impactful learning experience (learning), interdisciplinary and collaborative discovery (discovery), and personalized student connection (student success).

Table 1 Mapping Experiential Learning Activity to 21st Century Skill

Experiential learning activity	21 <sup>st</sup> century skill(s) used
Developing a call for manuscripts	Written communication skills
	Technology/digital literacy
	Collaboration
	Professionalism
Organizing the review process between authors and reviewers	Collaboration
	Written communication skills
	Decision making
	Professionalism
Communicating with student authors	Problem solving
	Written communication skills
	Professionalism
Working with CURS and Library faculty	Technology/digital literacy
	Oral communication skills
	Collaboration
	Problem solving
	Communication skills, including listening
	Decision making
	Personal responsibility
Professionalism	

## CONCLUSION

I am excited to see how our students continue to grow and develop through participation in the CURS Ambassador Program and the Arsenal. The most rewarding part of being in this position and working with these students is their collection expression of wanting to be a part of this process. These students want to volunteer their time and their minds to serve as an extension of our office. CURS is located on the third floor of Allgood Hall, in the Summerville Research Office. At any one time, there is a high likelihood that you can walk into the research suite and find a CURS Ambassador engaging with us in one way or another. This positive engagement stems from the environment that we have intentionally worked to establish, an outcome of experiential learning.

## REFERENCES

- Augusta University. (2022). *Creating a legacy like no other: Augusta University strategic plan 2022-2027*. Retrieved from <https://www.augusta.edu/about/planning/strategic-plan/>
- Center for Undergraduate Research and Scholarship. (2023a). *The Arsenal*. <https://www.augusta.edu/curs/arsenal-home.php>
- Center for Undergraduate Research and Scholarship (2023b). *Manuscript guidelines*. <https://www.augusta.edu/curs/arsenal-subguidelines.php>
- Hart, D. A. (2012). *How to start an undergraduate research journal*. Council on Undergraduate Research.
- Chan, C. K. Y. (2023). *Assessment for experiential learning*. Routledge.
- Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6–11, 38–46.
- Johnson, M. E., Mears, K., & Drescher, A. (2017). Creating the Arsenal: Augusta University's undergraduate research journal. *The Serials Librarian*, 72(1-4): 128-133. <https://doi.org/10.1080/0361526X.2017.1297590>
- Katula, R. A., & Threnhauser, E. (1999). Experiential education in the undergraduate curriculum. *Communication Education*, 48(3), 238-255. <https://doi.org/10.1080/03634529909379172>
- Kolb, D. A. (2012). *What is experiential learning?* Retrieved September 27, 2023, from <https://www.youtube.com/watch?v=1ZeAdN4FB5A>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.