Undergraduate Students' Research Identity and Research Culture: Professional Commentary

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Abstract

This professional commentary addresses the issue of encouraging and facilitating undergraduate students' research identity and a research culture. It was inspired by the recent relaunch of Kappa Omicron Nu's *Undergraduate Research Journal for the Human Sciences*. After distinguishing between a term paper and a research paper, the notions of a research identity and a research culture are discussed followed with an overview of what constitutes an *undergraduate* research culture and what is involved in learning *about* research versus learning *through* research. When striving to attain the imperative of engaging undergraduate students in research, higher education faculty members and academic leaders should focus on all these factors.

Keywords: undergraduate research, research identity, research culture, learning about and through research, home economics, family and consumer sciences

Introduction

This paper is a professional commentary on the issue of encouraging and facilitating undergraduate students' research identity and a research culture. As scholarly contributions, commentaries share the in-depth opinion of knowledgeable and experienced scholars who are interested in advancing a field by stimulating dialogue on a topic (Berterö, 2016). "Commentaries [often] cover an aspect of an issue that is relevant to a journal's scope" (Biomedical Central, 2021, para. 1). This commentary was inspired by the recent relaunch of Kappa Omicron Nu's (KON) *Undergraduate Research Journal for the Human Sciences* (URJHS) (current Editor-in-Chief, Dr. Cynthia L. Miller). The journal strives to provide a valuable learning experience for undergraduate students by (a) fostering their self-discovery as researchers and (b) rewarding and promoting their scholarly efforts.

To the best of my knowledge, this is the only student-centered professional journal in home economics in the world (including human sciences, family and consumer sciences [FCS], human ecology, consumer science, home sciences, home ecology, family studies, household sciences, and so on). Originally launched in 2002, URJHS was active until 2016 at the KON

platform with a 2020 relaunch at the New Prairie Press platform. Undergraduate students need not be KON members to submit, and all submissions are free. Students should be (a) currently enrolled in a related program or (b) in an undergraduate program when their scholarly work was completed. The journal employs rolling submissions and publication (i.e., publish as accepted). Undergraduate students can submit their paper at https://newprairiepress.org/urjhs/. Previous volumes of URJHS (2002–2016) are available at https://kon.org/urjhs/ (Holly Roseski, KON Executive Director, personal communication, March 25, 2022).

The success of this undergraduate research journal signifies because the next generation of home economics scholars comes from the current roster of undergraduate students. Also, a strong disciplinary research base contributes to a viable body of knowledge, which can be augmented with insights from undergraduate students who are socialized to be both consumers and producers of knowledge. For this reason, academic leaders and university faculty members should seriously consider socializing undergraduate students into a researcher identity and a research culture (Healey & Jenkins, 2009a, 2009b).

Term Paper versus Research Paper

As a caveat, part of the socialization process into an undergraduate research identity and a research culture (to be discussed) entails helping students appreciate the difference between preparing a term paper for a grade in a course and preparing a research paper for submission to an academic journal. Both scholarly efforts are valuable learning experiences but serve different purposes with different audiences (McGregor, 2021; Seine-Nord Europe, n.d.). This distinction is now clarified followed with a discussion of a research identity, a research culture, and an *undergraduate* research culture. The paper concludes with the distinction between engaging students by learning *about* research and learning *through* research.

Term Paper

McGregor (2021) explained that higher education instructors often require undergraduate students to write and submit a term paper to provide evidence they have acquired, in varying degrees, competence in course-related content, theory, principles, concepts, and/or skills (see also Seine-Nord Europe, n.d.). It is called a *term* paper because it discerns learning that occurred during or at the end of an academic term, quarter, or semester. Merriam-Webster (n.d.) defined it as "a major written assignment in a school or college course representative of a student's achievement during a term." It usually accounts for a large part of the grade for a course.

Most term papers do not involve academic *research* per se. Indeed, undergraduate students normally eschew primary and secondary research and submit instead a paper (on instructor-chosen topic) comprising an introduction, literature review, discussion points, conclusion, and references (McGregor, 2021). Whether explained thus, students usually (a) begin with a thesis statement (main idea), (b) follow with an antithesis section (i.e., identify ideas that support or refute the main idea with counterpoints) and (c) conclude with a synthesis (i.e., logical wrap up section reinforcing the main idea) (McGregor, 2018; Seine-Nord Europe, n.d.).

The term paper is graded along two key criteria: (a) knowledge of course contents (bulk of the grade) and (b) technical aspects of the paper (e.g., referencing, grammar, composition, plagiarism). Instructors assign a grade to the assignment, which becomes part of the final course grade. The latter appears on the student's transcript and informs the university registrar's decision regarding graduation from the university (McGregor, 2021; Seine-Nord Europe, n.d.).

This learning exercise is very subjective in that the two parties involved know each other's identity. Also, only the undergraduate student and the instructor ever officially see the

term paper. Although this learning experience can orient undergraduate students to the research arena, it is a very different enterprise than writing a research paper for submission to a peer-reviewed journal (McGregor, 2021; Seine-Nord Europe, n.d.).

Research Paper

Undergraduate students who opt to submit a manuscript to an academic journal will submit a research report to an Editor for possible inclusion in the discipline's knowledge base. The research paper could contain primary research, secondary research, or both. It could also be an argumentative essay (i.e., think piece, position paper, discussion paper, conceptual paper, or theoretical paper). The Editor will either (a) desk reject and return to the undergraduate student or (b) move the submission forward by sending it to two or more professionals for peer review (usually double-blind review with everyone's identity withheld) (McGregor, 2018, 2021).

The peer reviewers will judge the paper using criteria established by the journal's editorial board. Normally, they will judge the technical, argumentative (logical, reasoning), and ethical (plagiarism) aspects of the paper as well as the title, abstract, keywords, literature review, research question(s), methodology (research philosophy), method, findings and/or results, their analysis, discussion points, conclusion, recommendations, and the references (McGregor, 2018, 2021; Seine-Nord Europe, n.d.). McGregor (2018) provided specific criteria for judging argumentative essays, theoretical papers, and papers that report new conceptual frameworks.

To continue, when writing a research paper, the undergraduate student's objective is to convince the peer reviewers and the journal Editor that a rigorously designed, executed, and reported research enterprise has been conducted. After reviewing and judging the submission, the reviewers and the Editor can choose from one of four common decisions: (a) accept with no revisions, (b) accept with minor revisions, (c) accept with major revisions, or (d) reject (McGregor, 2018, 2021).

This decision is usually backed with detailed reports from all reviewers and the Editor, reports that are normally shared with the author. Should the author opt to address the revisions and resubmit for further consideration, a detailed *Response to Reviewers* must be prepared and accompany the reworked submission. Using the undergraduate author's feedback, rationale, and revisions, the Editor will decide whether or not to publish. This very objective (impersonal, blind) process allegedly ensures that only worthy new knowledge is added to the discipline's knowledge base. Unlike a term paper, results of undergraduate students' research efforts are intentionally widely available (McGregor, 2018, 2021).

Research Identity and Research Culture

Research is French *recercher*, 'to search closely, to seek out' (Harper, 2022). If anyone self-identifies as a *researcher*, they see themselves engaged in the systematic study of phenomena to search for and establish new facts, insights, and/or critical interpretations leading to original, fresh, innovative, and novel conclusions and recommendations that can shape research, theory, practice, curricula, and policy. Ideally, they inculcate and exercise this identity within a research culture. Culture is Latin *cultura* and refers to the "collective customs and achievements of a people, a particular form of collective intellectual development" (Harper, 2022, para. 2). Herein it refers to developing undergraduates' intellectual predisposition to engage with research. A research culture is thus "a system that places great value on conducting and communicating scholarly research" (Hanover Research, 2014, p. 5).
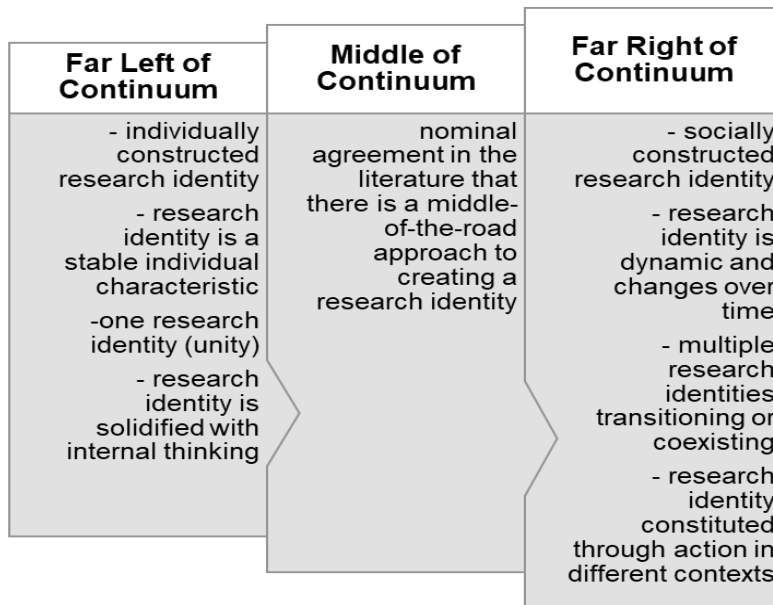
Research Identity

Castelló et al. (2021) published a systematic review of what underlies the *research*

identity construct, especially how it was being used to study early-career researchers' experiences (*N*=38 articles from the last 20 years). Their analysis yielded four dimensions of researcher identity ranging on a continuum (see Figure 1): (a) individually versus socially constructed, (b) stable individual characteristic versus dynamic and changing over time, (c) unity (one research identity) versus multiplicity (either transitioning from one identity to another or coexisting among multiple identities) and (d) research identity solidified through thinking (inner processes) versus identity constituted through action in different contexts.

Figure 1

Dimensions of Research Identity Formation (Castelló et al., 2021)

Far Left of Continuum	Middle of Continuum	Far Right of Continuum
- individually constructed research identity - research identity is a stable individual characteristic -one research identity (unity) - research identity is solidified with internal thinking	nominal agreement in the literature that there is a middle-of-the-road approach to creating a research identity	- socially constructed research identity - research identity is dynamic and changes over time - multiple research identities transitioning or coexisting - research identity constituted through action in different contexts

At one end of the continuum, researcher identity could be described as an individually constructed, stable, sole identity constituted through inner thought processes. At the other end of the continuum, a research identity could be described as a socially constructed, dynamic, and changing identity that is transitioning or coexisting with other identities and emerges through action and participation in different contexts (see Figure 1). They reported nominal middle-of-the-road positioning along these four dimensions in the literature, which was quite polarized (Castelló et al., 2021).

Their further analysis yielded four common threads in the literature (Castelló et al., 2021). First, some studies focused on the process of transitioning between or among different identities or competing identities (e.g., from student identity to researcher identity). Second, some scholars were interested in whether people transition from one identity to another or if they wrestle with multiple identities as they strive for a researcher identity. A third group of scholars was "highly consistent in defining [researcher] identity as dynamic and mainly individually driven, thus a developmental and agentive process" (Castelló et al., 2021, p. 582). A fourth thread held the opposite assumption – although researcher identity is personal and stable, it is strongly informed by sociocultural, historical, and political contexts.

Castelló et al. (2021) concluded that researcher identity it is "an amorphous concept, understood and used in a range of ways" (p. 567). Their timely research suggests that any initiatives tied to socializing undergraduate students into a researcher identity and a research culture should remain cognizant of the loose conceptual nature of what constitutes a researcher identity. This advise applies to the home economics profession.

Research Culture

A healthy research culture would exist when undergraduate students and other scholars are immersed in an environment where all staff at all levels serve as good role models who demonstrate collaborative, supportive, and fair behaviour. Researchers would benefit from a 'research integrity and ethical practice' framework wherein expectations are clarified, communication is facilitated, and support for good research is provided for all groups within and across the university. This research culture would provide an infrastructure, facilities, and support for effectively carrying out good research. Also, the principles of diversity, inclusivity, and equality would be embedded in the research culture (University of Stirling, 2020).

"Students will likely benefit from being immersed in a culture of research" (Hanover Research, 2014, p. 20). In its brief on building such a culture, the Hanover Research brain trust offered an array of characteristics of a healthy research culture. (a) It depends on institutional leaders setting clear research goals and communicating them clearly and widely. (b) These goals would be embedded in a well-defined plan of how to evaluate research success as well as the need to balance research with teaching and learning, allowing time for both. (c) The institution would fund research initiatives and provide researchers (faculty and students) with training and support (e.g., formalized continuing education, professional development [PD], and mentoring).

(d) Ideally, faculty members would be collegial, open, and collaborative, which is a pattern students can emulate through social learning. (e) Any established research culture would to be steadfastly maintained and nurtured with progressive policies. (f) Most important, an institution's **"culture of research should include consideration of student involvement**" (Hanover Research, 2014, p. 4). Beyond graduate students (see Baker & Pifer, 2011), developing undergraduate students' inclination toward and prowess in research and inquiry should become an imperative (Healey & Jenkins, 2009a, 2009b).

Undergraduate Research Culture

Rowlett et al. (2012) discussed best practices around an undergraduate student research culture as determined by the Council on Undergraduate Research (CUR), which defined undergraduate research as

> an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline. Undergraduate research – a term that encompasses scholarship and creative activity – is recognized as a high-impact educational practice that has the ability to capture student interest and create enthusiasm for and engagement in an area of study. (Rowlett et al., 2012, p. 2)

Rowlett et al. (2012) summarized 10 overarching best practices to ensure a healthy undergraduate research culture (see also Karukstis and Elgren, 2007) (see Table 1) with some overlap between an institution's overall research culture (Hanover Research, 2014; University of Stirling, 2020). The information in Table 1 is "intended as a guide for those who oversee undergraduate research and those who wish to build, evaluate, and maintain robust, productive, meaningful, and sustainable undergraduate research programs [and cultures]" (Rowlett et al.,

2012, p. 2).

Table 1

Best Practices to Ensure Healthy Undergraduate Research Culture (extrapolated from Rowlett et al., 2012)

<table>
<tr><td colspan="2">Best Practices to Ensure Healthy Undergraduate Research Culture</td></tr>
<tr>
<td>1 Campus mission and culture</td>
<td>
• institutional commitment to undergraduate research
• institutional commitment to a scholarly faculty complement
• faculty commitment to undergraduate research
• many disciplines at the institution accommodating undergraduate research
• research opportunities for all undergraduates not just senior or honour students
• institution-wide undergraduate research partnerships (e.g., career center, study abroad, residence life)
</td>
</tr>
<tr>
<td>2 Administrative support</td>
<td>
• internal monetary/budgetary support for undergraduate research
• start-up funding for faculty members to establish their research program, so they can be ready to take on undergraduate students
• faculty load credit (compensation) for supervising undergraduate research
• balance between teaching load and time to do research
• formal undergraduate research office, assigned faculty coordinator, space, and infrastructure (office expenses, PD, travel)
• research grant office with knowledgeable personnel predisposed to value undergraduate research
</td>
</tr>
<tr>
<td>3 Research infrastructure</td>
<td>
• space for undergraduate research enterprise
• research oversight structures (ethics reviews, hazards)
• instruments and equipment
• technical, administrative, and support staff
• library resources
• computational resources (information technology and computers)
• other research resources (e.g., access to museums, archives, artifacts)
</td>
</tr>
<tr>
<td>4 Professional development opportunities</td>
<td>
• faculty research leaves, sabbaticals, and training opportunities
• undergraduate research-related PD
• mentorship training to work with undergraduate researchers
</td>
</tr>
<tr>
<td>5 Recognition</td>
<td>
• tangible recognition of faculty members' involvement in undergraduate research
• accommodate this role in promotion and tenure guidelines
• provide merit pay awards and salary increases based on involvement with undergraduate research
• provide public 'awards of excellence' to faculty members who engage in undergraduate research
• feature undergraduate research on the institution's website
</td>
</tr>
</table>

6 External funding	•	procure external monies to develop rich, productive, and cutting-edge general *and* undergraduate research environment and research culture
	•	seek external funding to support undergraduate research supervision and mentoring
	•	allocate seed (internal) monies to support undergraduate research
7 Dissemination	•	ensure undergraduate research dissemination (get it out to the world)
	•	promote the value of peer-reviewed publications
	•	implement policies and funding to encourage undergraduate student participation at exhibitions, conferences, and professional meetings
	•	encourage and support undergraduate student participation at local and regional undergraduate student meetings
	•	arrange on-campus undergraduate research symposia
8 Student-centered issues	•	design undergraduate research experiences that include and reinforce best practices in undergraduate education
	•	arrange for early and sustained involvement of undergraduate students in the research culture and the development of a research identity
	•	establish and then communicate realistic, clear, and high expectations of what is involved when undergraduate students engage in research (e.g., time commitment, requisite presentations of results/findings, research reporting, accountability)
	•	provide developmentally appropriate openings to engage in undergraduate research (different activities for junior, senior, and honour students)
	•	create and foster a community of undergraduate student scholars
	•	employ both faculty mentoring and undergraduate peer mentoring
	•	combine undergraduate research activities with other engaging experiences (e.g., different mentors, disciplines, teams, projects)
9 Curricula	•	design curricula that expose undergraduate students to research skills (learning *about* research)
	•	provide curricular opportunities to engage in undergraduate research (learning *through* research)
	•	ensure faculty members have sufficient time and financial compensation to work with and mentor undergraduate researchers
	•	instruct undergraduate researchers in the ethics of responsible research with humans and animals
	•	provide undergraduate students with special training for research writing skills and oral research presentation skills
	•	award course credit to undergraduate students who engage in research
	•	conversely, require all undergraduate students to engage in research
10 Summer research program	•	implement a summer undergraduate research program (paid student stipends, student housing, access to facilities and services) that culminates in students' presentation of their scholarship at a research symposium. This could include hosting visiting undergraduate students from other universities and paying for their orientation, housing, meals, and after-hour activities.

11 Assessment activities	•	create and employ benchmarks to gauge success of undergraduate research at the university
	•	use these benchmark data to recognize successes, illuminate gaps, and assess undergraduate students' growth and development in the research arena
	•	evaluate undergraduate students' learning about and through research
	•	evaluate the effectiveness of the institutions' undergraduate research program and culture (e.g., logistics; student engagement, satisfaction, and academic achievement; funding and resource support)
12 Strategic planning	•	recognize and strategically plan for resources needed to offer undergraduate students' learning about and through research
	•	plan to strategically assess the environment, culture, policies and procedures, curricula, resourcing and so on

Learning *About* Research and Learning *Through* Research

Accomplishing the imperative driving this professional commentary will entail engaging undergraduate students from two perspectives: (a) learning *about* research and (b) learning *through* research (Healey & Jenkins, 2009a). "The preposition *about* means to be the topic of, the point of, or the main concern. ... *Through* connotes the means of doing something [such as learning]" (McGregor, 2022, p. 47).

To illustrate, McGregor's (2018) book (*Understanding and Evaluating Research*) concerns learning *about* research. It is all *about* how to critically evaluate someone's research to determine the advisability of using it in practice (e.g., for policy, education, activism, business, research, or media). Learning *about* research involves (a) engaging in discussions about research (research tutored), (b) learning about current disciplinary research (research-led learning) or (c) both. Learning *through* research is a very different ball game. Instead of just reading about the research process, undergraduate students would (a) engage in research itself (research-based learning), (b) benefit from a course designed to model the research process (research-oriented learning) or (c) both (Healey & Jenkins, 2009a, 2009b).

As a caveat, these four ways of "engaging students with research and inquiry are, of course, not independent; for example, undertaking research and inquiry and engaging in research discussions are effective ways to learn about current research in the discipline and develop research and inquiry skills and techniques" (Healey & Jenkins, 2009b, p. 8).

What matters is that when undergraduate students learn about research *and* through research, they have a chance to shift from *absolute knowing* (where knowledge is certain and obtained from an expert) to *contextual knowing*. With the latter, undergraduate students come to believe that "knowledge is constructed in a context based on judgement of evidence; their role is to exchange and compare perspectives, think through problems, and integrate and apply knowledge" (Baxter Magolda, 1992, p. 75). Learning and knowledge acquisition from a *contextual knowing* perspective would thus move undergraduates from passive to active learners due in part to their exposure to research processes and cultures and their attainment of research prowess (Baxter Magolda, 1992).

Conclusion

Higher education faculty members and academic leaders should focus on several factors as they strive to attain the imperative of engaging undergraduate students in research. First, they should appreciate that what constitutes an undergraduate research identity, and how it is attained,

is a multidimensional, evolving construct. This fact provides flexible opportunities to specify how they intend to approach this aspect of student socialization and what they will accept as evidence of its manifestation.

Second, there is considerable overlap between what constitutes an institution's research culture and an undergraduate students' research culture, yet there are discernable distinctions (see Table 1). Faculty members engaging with likeminded initiatives should remain cognizant of both cultures and how they interact – the institution's macro research culture and the undergraduate researchers' micro research culture.

Third, interested faculty members and academic leaders should draw encouragement from the multidimensional approaches available for engaging undergraduate students in research: learning *about* research (research-tutored and research-led learning) and learning *through* research (research-oriented and research-based learning). A hybrid approach would likely be quite tenable and sustainable.

Novice home economics undergraduate student researchers are fortunate to have a professional vehicle where they can submit their research papers. As noted, the *Undergraduate Research Journal for the Human Sciences* has been active for about 20 years and associated with a venerable professional association, *Kappa Omicron Nu.* Should university faculty members and academic leaders decide to mentor and support undergraduate home economics and FCS researchers, they can direct them to this established peer-reviewed journal and use it as a steppingstone to journals intended for a more experienced professional base – early-career and established research practitioners who are shaping the discipline's knowledge base and informing professional practice.

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