

# Planning Students' Experiences of Interdisciplinary Near-Peer Research Mentoring

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## Abstract

This article describes planning students' experiences of an interdisciplinary near-peer research-mentoring program in the context of experiential learning. A group of final-year undergraduate planning students, who were required to conduct research and write a report, were mentored by master's degree students in research psychology. Data obtained from independent focus group discussions with two cohorts of students yielded three themes. The merits and demerits of near-peer research mentoring are presented, and planning lecturers' approach to improving students' research skills by providing similar (especially interdisciplinary) programs is considered.

**Keywords:** experiential learning, interdisciplinary near-peer mentoring, planning education, student experiences, research methods

## Introduction

Urban planning graduates are expected to have a range of competencies, including research skills, especially those of an interdisciplinary nature (Alexander 2001; Dawkins 2016; Goldstein 2012; Guzzetta and Bollens 2003; Mitrany and Stokols 2005). The planning curricula of universities in the United States prepare students adequately with technical research skills that are in significant use in practice (Dawkins 2016; Greenlee, Edwards, and Anthony 2015). Although students in developing countries may need to be trained in skills that are relevant to a different planning process, research in Iran, for example, indicates that competency in data collection is also important for graduates, especially at bachelor's degree level (Bahrainy and Manshadi 2017). Subjects relating to data collection are usually taught in research methods courses included in core planning curricula (Edwards and Bates 2011; Pojani, Kimpton, and Rocco 2019).

An exploratory study of doctoral training programs highlighted that planning students are not always required to show competence in research methods outside of the approach they follow for their dissertations although their subsequent careers may require broad research expertise (Goldstein 2012). Planning master's and doctoral theses submitted between 1963 and 2007 in South Africa (where our study is located) also showed a limited range of research designs (Du Toit 2010). This despite research methods courses in planning addressing the tendency to teach only quantitative and geographic information system (GIS) approaches (Baum 2005; Edwards and Bates 2011; Goldstein 2012) by incorporating skills in qualitative methodologies (Eizenberg and Shilon 2016). These skills include doing case study research

that provides meaningful understandings of urban spaces and planning practices in Africa (Watson and Odendaal 2012) and of social justice in general (Sen et al. 2017).

Training planning students in research methods is, however, arguably difficult as students must put in effort to learn the requisite skills. In addition, the subject is unpopular as the extent to which these skills are applied in practice does not justify this effort (Kaufman and Simons 1995). Students see planning research predominantly as “gathering of evidence” instead of as a step in the broader design process that graduates will most likely encounter in practice (Baum 2005; Pojani, Kimpton, and Rocco 2019). Graduates may thus experience a disparity between their education and the skills required in the workplace, which has been the topic of a long-standing debate as it has implications for the curriculum (Baum 2005; Edwards and Bates 2011; Sturzaker 2014). The question is how to teach research to planning students more effectively, given that most of them will be oriented toward practice rather than research.

Planning should combine research traditions from the natural and social sciences so as to promote both situated and mechanistic understandings of problems, and the generation of potential solutions for complex urban systems (Karvonen et al. 2021). This signifies an interdisciplinary approach to urban sustainability that integrates knowledge and skills from various perspectives, culminating in the ability to think across disciplinary boundaries (Taylor et al. 2021). Fostering interdisciplinarity is also paramount to preparing planning students for working in a complex environment that often transcends disciplinary boundaries and that requires collaborating with a team of diverse professionals to address societal challenges (e.g., climate change and urban planning—see Hurlimann et al. 2021) or using various research methods (Chapman 2009; Mitrany and Stokols 2005; Rooij and Frank 2016; Yocom et al. 2012). One approach is to share research methods courses with other disciplines that have similar content and commitment to rigor (Goldstein 2012). We implemented this approach by developing an interdisciplinary near-peer mentoring program involving master’s degree students who specialize in social research methodology.

Existing research shows that mentoring programs in urban planning have benefits, for example, students learn how to think and work in the profession as modeled by a lecturer using reflection-on-action in studio projects (Bagley and Shaffer 2015); students perform to high standards while receiving the necessary support from lecturers (Walkington et al. 2020); these programs foster inclusive environments for minority students (García et al. 2021); programs develop digital research skills through peer support (Perez 2018); programs link students to the professional environment through external mentoring (McCarthy and Bagaeeen 2014); and they create a network for collaboration in a master’s degree program to improve the profession in a country in transition (Maruna, Rodich, and Colic 2018). Parallel to interdisciplinary mentoring, we used experiential learning for the practical application of the students’ research knowledge. Experiential learning approaches in planning include studio-based work (e.g., Coiacetto 2008; Senbel 2012), research projects (e.g., Baldwin and Rosier 2017), community engagement (e.g., Kotval 2003; Padt, Bose, and Luloff 2020), field excursions (e.g., Elwood 2007), team-based learning in a classroom (e.g., Boyer 2020), and work-integrated learning (e.g., Freestone, Thompson, and Williams 2006; Rosier et al. 2016).

These experiences are on a continuum ranging from the university's level of involvement in the activity to how much theory–practice reflection students are required to do (Baldwin and Rosier 2017). Experiential learning assists students in understanding the complexities, uncertainties, and breadth of work in planning; integrating theory and practice while serving communities; developing social and negotiated decision-making skills; learning to critically reflect on practice; feeling a sense of ownership and engagement in learning; and building confidence (Boyer 2020; Elwood 2007; Freestone, Thompson, and Williams 2006; Kotval 2003; Rosier et al. 2016; Senbel 2012; Tyson and Low 1987).

In this article, we explore students' experiences of the interdisciplinary near-peer mentoring program as a relatively unknown pedagogical approach to enhance the quality of research methods training and its relevance to planning practice. Furthermore, we describe the related planning curriculum and the design of the mentoring program and experiential learning project. We explain how data about the students' experiences were collected and analyzed, present the findings from the analysis, and refer to implications for interdisciplinary near-peer mentoring of planning students in the context of experiential learning.

### **Description of the Planning Curriculum and Design of the Near-Peer Mentoring Program**

Professional planning programs in South Africa are offered at undergraduate and postgraduate levels. Undergraduate programs are either a three-year bachelor's degree plus a one-year honors degree or a four-year bachelor's degree, both of which enable graduates to register as candidate and eventually professional planners with the statutory planning council in South Africa. At the University of Pretoria, the Department of Town and Regional Planning's undergraduate planning program is one of a few remaining four-year bachelor's degrees in South Africa. The curriculum covers, inter alia, the following subfields within planning: site, settlement, and policy analysis; settlement planning and design; infrastructure planning; urban and rural development planning; land-use planning; planning law; and planning interventions at various spatial scales. As students must also complete courses in statistics, economics, and sociology at first-year level, and eventually complete either economics or sociology up to third-year level, they get exposure to interdisciplinarity at an early stage. The South African National Qualifications Framework requires honors or four-year programs to culminate in a research project of limited scope. During their fourth and final year, planning students complete a course in research methodology during the first semester and conduct research and complete a research report during the second semester. This aligns with Goldstein's (2012) recommendation of presenting a research practicum as the second part of a theoretical course on methods, thus giving planning students the opportunity to practice their skills in a real-world project.

Each lecturer in the planning department conceptualizes a research project, and each student chooses a project in which to participate. In 2013 and 2017, one of the projects included a people–environment topic that focused on the effect of the built environment on pro-environmental behavior and on planning and designing more sustainable settlements. In 2013, the focus was on household recycling in enclosed housing typologies, and, in 2017, the

focus was on household uptake of water-sensitive urban design source controls. Both these projects were conducted in collaboration with the psychology department.

We developed a program for master's degree students in research psychology to mentor planning students in conducting research, including doing statistical data analysis and writing reports. The rationale for this program is that planning is an applied science that often borrows methods from the descriptive sciences to conduct research (see, for example, Pojani, Kimpton, and Rocco 2019). The connection between the planning and psychology disciplines was that the planning students had to learn about and conduct research on a topic that involved behavior (specifically pro-environmental behavior), and research psychology specializes in applying research methods involving behavior also in fields other than psychology, such as planning. In line with the aims of interdisciplinary education outlined by Taylor et al. (2021), we wanted to provide planning students with an opportunity to synthesize knowledge about behavioral research from the discipline of psychology and to gain an additional perspective about research while coping with the complexity of an experiential learning context. We also argued that the master's degree students in research psychology, given their seniority in relation to the planning students and their expertise in applying research methods, were ideally placed to mentor the planning students on a research project related to pro-environmental behavior. Typically, the literature refers to this mentoring method as "near-peer mentoring"—an approach that "allows for the students with more experience, regardless of age, to serve as a peer or near-peer mentor on a research project" (Edgcomb et al. 2010, 18).

The overall purposes of the mentoring program were to improve the research and report-writing skills of the planning students and to give the psychology students experience in research mentoring. In addition to cultivating the scholarship of teaching and learning through this program, we hoped to further enhance the development of students' research skills, the quality of their research outputs, and interdisciplinary collaborations between departments, faculties, and students.

The mentoring program was implemented in the course of one semester (June to November). First, the research psychology and planning students met with their respective lecturers who described the program to them and asked whether they were willing to participate. An initial meeting was held, where each group of students was required to present literature on two respective environmental research topics from the perspective of their discipline. Mentors (master's degree research psychology students) were then paired with mentees (fourth-year planning students). In 2013, the pairing was done by matching the students alphabetically. Based on feedback from the mentors and mentees—who said they had not necessarily connected with each other—we undertook a "speed dating" exercise in 2017. This involved mentors and mentees introducing themselves during a round-robin session and each listing the first three matches/pairings they preferred that the lecturers subsequently used to compose the pairs.

Once mentors and mentees had been paired, they had time to get to know each other and exchange contact details. We instructed the pairs to arrange one-on-one consultation sessions throughout the research project to structure their communication and working

relationship within the requirements of their respective module outcomes. The planning students submitted a mini-proposal to their lecturer, giving feedback about their chosen research question and strategy. The mentors and mentees met again as a group at a workshop on fieldwork training after which the mentees collected data in the field and captured it in preparation for a workshop on the Statistical Package for the Social Sciences (SPSS) to be presented by the mentors. Subsequently, the mentees analyzed the data and wrote research reports under the guidance of their mentors who commented on two or three drafts of the work. The drafts with comments were submitted to the psychology lecturer who gave guidance to the mentors if necessary and assessed the quality of the feedback provided to the mentees. Next, the mentees submitted their research reports to their lecturer for examination.

## **Method**

### ***Research Design***

As we were interested in understanding the mentees' experiences of the near-peer mentoring program, we asked them what it was like to participate in the program and what meanings they attached to their experiences. This qualitative approach afforded us the opportunity to establish how the students subjectively experienced the mentoring program and made sense of their participation (Willig 2013).

Our primary research question was as follows: How did the mentees experience the near-peer mentoring program while collaborating on a research project? The secondary questions focused on how they experienced the interaction with and the feedback received from their mentors, how they perceived the process in relation to the research skills required, how they experienced the interdisciplinary collaboration on the research project, and how they felt the near-peer mentoring program could be strengthened and better integrated into the course curriculum.

Ethical approval for the participation of the psychology students and the planning students in the project was received, respectively, from the university's Faculty of Humanities (letter dated October 30, 2013, and GW20170624HS, 2017) and Faculty of Engineering, Built Environment and IT (EBIT/80/2013 for 2013 and 2017). The participants signed an informed consent form and were assured that an external transcription company would provide anonymous verbatim transcriptions of the recordings to the lecturers.

### ***Data Collection and Analysis***

We chose to collect data using focus group discussions (FGDs) on the basis that students formed their experiences in a group setting and that the FGDs offered the opportunity to study the ways in which students collectively made sense of, and constructed meanings about, the mentoring relationship (Bryman 2016). Two FGDs were arranged for each cohort: one to which all the mentees were invited, and one to which a random sample of half the mentees and half the mentors was invited. The rationale for the latter was to make the FGDs manageable and to minimize possible interview fatigue. The composition of the focus groups

for 2013 and 2017 is presented in Table 1. Only one of the mentees did not participate in the FGDs held during both the 2013 and 2017 studies, but all the invitees to the mixed groups attended.

**Table 1.** Composition of Focus Groups.

Focus group	Focus group members	Class size	Number of focus group members
2013	Mentees	10	9
	Random sample of mentees and mentors	16 (10 mentees, 6 mentors)	8 (5 mentees, 3 mentors)
2017	Mentees	6	5
	Random sample of mentees and mentors	11 (6 mentees, 5 mentors)	7 (5 mentees, 2 mentors)

An independent researcher facilitated the groups as it was important that the participants felt comfortable speaking about their experiences, which included feedback about their lecturers. The interview guide was developed in collaboration with the independent researcher and included probing questions, such as “What were the most important experiences you had?” “What did you experience in your interdisciplinary collaboration?” and “What did you learn about research?” so as to elicit students’ experiences of the mentoring program. The FGDs were held at the end of the academic year after completion of the mentoring program. A facility on campus suited to conducting FGDs was used and the discussions were voice-recorded.

We thematically analyzed the FGD transcriptions to identify patterns in the qualitative data (Braun and Clarke 2006). In exploring the learning experiences of the 2013 and 2017 groups, we analyzed both data sets together to gain a holistic understanding. A deductive approach was used where coding was specific to some of the research questions (Braun and Clarke 2006), namely, the planning students’ experiences of being mentored, the interdisciplinary collaboration, and the research mentoring. We followed Hesse-Biber’s (2017) process for analyzing the FGD data: we (1) read the transcript of each FGD and made notes of how the responses related to the research questions; (2) read each line of a group’s transcript and coded for meaning, considering that the codes needed to be placed into overarching categories that contained the main ideas from the full FGD; and (3) used the codes to form categories and subcategories to frame themes based on specific questions.

In line with Hesse-Biber’s (2017) suggestion for ensuring validity, we (the two researchers) discussed the findings and sent the final themes to the independent researcher for verification. It was not possible to cross-check the findings with the participants because they had graduated and left the campus by the time the data were analyzed.

### **Findings**

The findings reached from analyzing the data obtained from the 2013 and 2017 FGDs are presented according to three themes: general experiences of being mentored, experiences of the interdisciplinary collaboration, and experiences of being mentored in research. The

subthemes of each theme are also dealt with. Direct quotations are provided to illustrate the findings, and the data set is indicated as follows: 2013/2017 UP (year of data collection and urban planning focus group) and 2013/2017 UP and RP (year of data collection and urban planning and research psychology focus group).

### ***Theme 1: General Experiences of Being Mentored***

The mentees generally had positive experiences of being mentored and appreciated having someone to “help” them.

I just feel it was very helpful because you didn’t feel alone, so when you had questions you could ask wherever they are. (2013 UP)

They were very open. . . . They were very helpful, very willing and able to assist us. (2017 UP)

Four subthemes (two merits and two demerits) emerged under theme 1 (i.e., general experiences of being mentored). The merits were the “emotional support” received from the mentors, and some unexpected benefits gained from the mentoring relationship. The two demerits were difficulties associated with the near-peer relationship, and the lack of alignment between the mentors’ advice and the planning course requirements.

*“Emotional support” from mentors.* Some mentees reported that the mentors could relate to the mentees, that they empathized with them, built trust, and provided encouragement. They described this guidance as “emotional support.”

We had the same mentor and she was very encouraging. Although we didn’t speak a lot, she was really . . . she gave positive . . ., she supported you. (2013 UP)

Even for just emotional support, I am—I don’t know what to do. She is—calm down—just try to fix this, just try to understand what it really is about. So, just having a helping hand. (2017 UP)

*Unexpected benefits of being mentored.* Additional benefits that we did not expect would be gained from the mentoring program included life skills coaching, such as the mentors guiding the mentees in pacing their work and managing their time.

[My mentor] just said that, because I am stressing a lot, and then she said I should calm down, there is still enough time. (2013 UP)

My mentor taught me how to really unpack a problem, because I would just . . . okay, we have a problem, but we will fix it. But she is . . . no, let’s just sit down—and she would draw a mind map and just try and figure out what our problem is and how we are going to fix this. So, she actually taught me how to. (2017 UP)

The mentees also gained some personal insight into the way they should approach professional relationships.

I should communicate more because I could tell that she was more open to communicate to me; she would tell me if she had a problem. I wouldn’t tell her, I would just make sure that I would make whatever we needed happen and whatever issue I had would have to just fall

back and then I will deal with whatever issue I would have, but she would communicate with me. So, . . . with me it just helped—it just showed me that I should be more open because this is a working relationship. Yes, that’s what I learnt. I know that next time if I ever have this opportunity I should be more open to help, because I know I am not. (2017 UP)

*Perceived differences in the near-peer relationship.* Although the mentees appreciated emotional support from the mentors, some of the mentees experienced a difference between themselves as fourth-year students and the mentors as master’s degree students. Although the mentoring program was set up between near-peers, so that the mentors as master’s degree students specializing in research could assist the fourth-year mentees, this perceived distance between mentor and mentee may have affected their interaction as some mentees did not want a social relationship with their mentors, although this might be expected in other mentoring contexts.

[The mentors] are only judges of the [report], so I don’t think I would like a social relationship with someone who is going to be so judgmental on whatever I wrote. (2013 UP)

Everyone was very academic compared to us. You could see the difference between being an honors [final-year] student . . . and being a master’s student. (2017 UP)

The speed dating exercise implemented for the 2017 group did not seem to result in different relationship outcomes between the mentors and mentees. In comparison with the 2013 group, some of the 2017 planning students still reported that the relationship with their mentor was not necessarily a close one because of their personal preferences, whereas other mentees expressed the need for more personal interaction:

Well with me I never met my mentor . . . maybe I did miss a component then with regard to having actual physical interaction with my mentor, but it worked out and I am also not really a people person. (2017 UP)

Me and my mentor, we didn’t have a schedule where we would meet, which I would say is maybe better, because I personally work better face to face instead of over the internet . . . It’s just a different communication style that I would say clashed, but every time when there was really a need to actually meet up, we did and we would talk for long. (2017 UP)

*Lack of alignment between the mentors’ advice and the planning course requirements.* The mentees experienced a lack of alignment between their mentors’ advice and the planning lecturer’s expectations related to their level of study and the course requirements.

It became challenging when what was expected by [the lecturer] was not conveyed to the mentors. So, at times the mentors would give the mentees exceptional advice, but they would have gone into too much detail. [The lecturer] wanted us to get straight to the point and not to be so specific, as that was more outlined in the master’s level. (2017 UP)

The mentees proposed that communication between the planning lecturer and the mentors be improved, clearly conveying what can be expected of the mentors and defining their role.

Also, maybe a clarification of roles. I think that was an important thing that they missed at the beginning of the study. . . . They should have said, okay, the master’s students’ roles are to

supervise, and whatever comments they make should be implemented by the planning students. Or, the master's students are there just to give advice, take it or leave it. (2013 UP)

We said that the lecturer should give frequent criticism of drafts, and then we said that he or she should be the actual supervisor. The lecturer should also be more involved from the start and throughout the entire process of drafting the report. The lecturer should also discuss drafts with the mentors and then they come back to us with one voice. . . . [T]he lecturer should communicate more with the mentor to remove any communication issues. (2017 UP and RP)

Stricter guidelines on what each one is going to do and what you can expect of each other. (2017 UP)

### ***Theme 2: Experiences of the Interdisciplinary Collaboration***

The mentees' experiences of the partnership between planning and psychology are captured in two subthemes: the relevance of interdisciplinary collaboration for planning, and clarifying the interdisciplinary collaboration.

*Relevance of interdisciplinary collaboration for planning.* This subtheme illustrates some mentees' struggle to understand the purpose of the interdisciplinary collaboration. They could not see the connection between planning and research psychology despite previously having studied elective subjects in the social sciences. Perhaps their lack of comprehension can be explained by their specific understanding of psychology as a discipline (an aspect that is discussed at the next subtheme). The mentees also felt that too much emphasis was placed on the behavioral aspect of the study. Furthermore, they were unable to locate themes and concepts in a broader context without assistance from their mentors.

[M]y mentor . . . right at the end, said that I had to go and do . . . implications for planning and further research. And then I went, . . . "Oh, is this actually—do I actually have to do town planning in it?" because right from the beginning everything felt like it's a psychological [study]. (2013 UP)

Maybe I forgot but I don't remember us being told why there's this collaboration . . . I understand that a mentor–mentee situation is very good because we get to bounce off . . . we know that we are busy on the right track but I don't remember us being told why specifically the psychology students are going to be our mentors and how does this add value to . . . our research. (2017 UP)

*Clarifying the interdisciplinary collaboration.* The mentees' struggle to conceptualize the link between planning and research psychology resulted in requests for greater clarity about interdisciplinary collaboration. The mentees in the 2013 focus group felt that the role of the research psychology students as mentors should have been explained ("Maybe they should explain the role of why psychology students are our mentors"). The planning mentees did not see the research psychology mentors as researchers, but as therapists ("I actually thought you guys would be the person sitting on a chair with people stretched out on a couch"). Although we thought we had subsequently addressed this issue, it recurred in the 2017 FGDs where it was suggested that clarification be given of the mentors' role in adding value to the mentees' research projects and giving emotional support.

Yes, why specifically psychology students, so that I know that she can help me with all these other facets . . . , because I was very scared to just ask things besides the work. (2017 UP)

### ***Theme 3: Experiences of Being Mentored in Research***

The mentees' positive experiences of being mentored in research were captured in two subthemes: benefits of research mentoring, and gaining new ideas and research skills. However, a third subtheme emerged, reflecting mentees' negative experience related to their perception of the differences between research in urban planning and research psychology.

*Benefits of research mentoring.* The mentees referred to the benefits of having one-on-one discussions with research mentors about specific research topics and issues as well as research principles and practices in general, identifying areas for improvement in their writing (e.g., the need to clarify information), and learning about data analysis software (SPSS) in an enjoyable way.

The way [the mentors] gave comments on our reports helped a lot. If you write a report you don't necessarily see the gaps, and they showed you how to identify it. (2013 UP)

I think we learned a lot from the SPSS training. The mentor who presented it was very to the point and made it fun. (2013 UP)

With SPSS, I mean, she was also learning while I was learning, which was kind of fun because we were kind of exploring together. (2017 UP)

The mentees acknowledged the mentors' research experience and found it helpful in navigating their way through a complex research process at the level they needed. Mentees experienced their mentors as very knowledgeable about research; they respected their opinion and could consider them as role models within the field. The mentors' role was crucial in assisting the mentees with data analysis, which required them to apply specific research terminology.

[The mentors] have got more experience in research. (2013 UP)

There is not one comment that I read that my mentor made that I didn't understand. So, they were very clear in making you understand what they want to say. (2013 UP)

But also, their skills in research. They knew what method to use or what measure to use or how to go about it, and I didn't. . . . What is correlation and what's the difference between correlation and cross-tabs, and what . . . Spearman . . . whatever . . . I was completely lost and she explained to me that I should use this one, that's why. So, she made the research part much better, much easier. I would have been lost without her. (2017 UP)

Participating in experiential learning and being assisted by the mentors were also beneficial when the mentees found it challenging to connect the theory of research (taught in their first semester module [TPE410] and additional statistics modules [STK110 and STK120] taught in their first year) to the requirements of their research report module (TPE420) in the second semester of their final year.

Many of the stats we had to do [in class] was on another level than what we did [in the project]. We did it much more theoretical only. (2013 UP)

Yes, because we only had the theory, we didn't have any practice. Now I have all the data sets, but now I have to analyze this according to these aspects, and we didn't know how to do that at all. (2017 UP)

The mentees felt they had an advantage over their fellow planning students who had chosen to work on other lecturers' research projects that did not include a mentoring program.

We were the only group [in the final-year planning class] that had a quantitative study and the rest had a qualitative study. I know that they struggled with the interpretation of the qualitative data, where we had the advantage of having mentors to guide us in our quantitative [data]. (2013 UP)

*New ideas and research skills.* Working on a people–environment topic and interacting with the mentors exposed the mentees to new ideas, and they learnt how another discipline would approach a research project. They reported developing research-related skills in the process that included applying theory to research on planning topics, academic report-writing at a fourth-year level, and statistical data analysis using software (SPSS).

I actually started to like research after this because . . . you learn something valuable after doing the research. (2013 UP)

I didn't understand the Theory of Planned Behavior until that presentation thing. There was . . . that aha moment for me in the presentation, oh—so, . . . , there is another influence in this whole thing. (2013 UP)

I think we had a bit of a shallow view, not looking down on it, . . . we didn't know the depth of research. . . . [W]e just knew a little bit about research, because we have been writing reports since the first year, but this was a lot more academic and it's a lot more professional. . . . [I]t just taught us what it actually means to go into a research report. I don't know, it was fun. (2017 UP)

SPSS, I can put it on my CV, because it was challenging, but I kind of . . . cracked it later on, literally like a few weeks ago. But I learnt so much from SPSS, like statistical things, terms and how to calculate that. (2017 UP)

*Urban planning research versus research psychology.* The mentees found the subject of research methodology challenging, and they perceived it to vary across disciplines. Furthermore, they perceived that the mentees' lack of research knowledge frustrated the mentors and that mentors held mentees to a high academic standard in terms of doing and reporting on research.

My mentor would read it as a lay person, someone who doesn't know at all what's going on. She would strictly say, "But you can't say this, what does it mean?" (2013 UP)

As undergraduate students, the mentees understood urban planning research to be more "creative" and less guideline-driven than research in psychology. Consequently, they experienced the mentors as being strict and going by the book, which created a barrier regarding what the mentor expected and what the mentee delivered. While this may reflect

mentees' expectations of urban planning research, it may also reflect their lack of experience and the difficulties of crossing disciplinary boundaries, which is perhaps concerning, considering the professional understanding of planning as interdisciplinary, and considering that mentees were exposed to the social sciences having studied sociology. It may suggest that social research, in particular research about behavior, poses a hurdle for planning students to cross disciplinary boundaries. It may also suggest that they conceptualize research in planning as a creative practice or as "research by design," a conceptualization that does not equate to traditional academic research. This area needs further exploration among students (Pojani, Kimpton, and Rocco 2019).

To add on that, they are very by the book. I don't do fluff, I am too lazy for that, that doesn't apply. There was a part where we had to do the SPSS stuff, and she wanted to do it completely in this direction exactly by the book, because this is how it's done. But I was: that doesn't apply to my research. So, I was just going to maybe do a random graph and just analyze it on a different—no, but this is how the book does it. So that was completely different than what I am used to, but I don't think it's a bad thing. So, at the end to combine those two it worked out very well, but there is a different way they do things. (2017 UP)

The mentees experienced some frustrations with regard to the differences in approach between research psychology and urban planning as disciplines. For example, psychology uses the American Psychological Association (APA) referencing style, whereas the urban planning program requires using the Harvard style, which led to some confusion.

It got a bit confusing as well in terms of how—for a while my mentor would . . . not understand the type of referencing style that I use. So, she would think I am wrong every time, but only to find out that the two disciplines use two different references. (2017 UP)

During the first session, where students were introduced to the research project and the mentoring program, each group presented a literature review from the perspective of their discipline, which was helpful in creating a shared understanding.

We took it from a town-planning point of view and they had a psychological point of view. So, I think just for everyone to be on the same page, like coming from the same angle instead of the different departments. (2013 UP and RP)

### **Implications for Interdisciplinary Research Mentoring of Planning Students**

Research skills are important for planning students as research work makes up a significant part of the curriculum that prepares them for postgraduate studies and professional practice (Dawkins 2016; Edwards and Bates 2011; Pojani, Kimpton, and Rocco 2019). Our findings support the notion that research mentors, especially those who specialize in research methodology, have the potential to assist planning students in gaining a better understanding of research and improving their research competence.

We considered what made the mentoring successful or less successful from the students' point of view. Successful aspects included the students' experience of mentors' so-called emotional support, and the unexpected benefits gained from practical guidance and opportunities for reflection. These last two aspects are integral to experiential learning

activities for developing future planners (Baldwin and Rosier 2017; Rooij and Frank 2016). However, we lecturers overlooked the role of encouragement and its importance to mentees. Mentoring in the experiential learning context enabled the theory–practice dialectic (see Baldwin and Rosier 2017; Kotval 2003) between the research methods module and the writing of the research report, broadening students’ general perspectives on research that is typical of interdisciplinary education (Yocom et al. 2012).

Although we had addressed some of the aspects that had made the 2013 mentoring program less successful, similar issues (albeit in different forms) resurfaced in 2017. These aspects related to the following: the difference in study level between mentors and mentees, the disconnect between what mentors expected of mentees and what mentees required at their level of study, uncertainties about the role of the mentors versus the role of the lecturer, and uncertainties related to interdisciplinary collaboration (e.g., disciplines used different referencing styles and this should be clarified at the outset). Other authors have also reported the difficulty of building collective understanding in interdisciplinary education (e.g., Rooij and Frank 2016; Yocom et al. 2012).

In this case, the fact that the mentors were specializing in research methodology, whereas the mentees were learning how to do a research project, as well as the fact that they were from different academic departments and faculties, meant that their expectations of the level and type of research were different. The difference in the level of critical thinking, at least regarding research, between the planning and research psychology students was evident. The planning students found it difficult to cross disciplinary boundaries and to learn and apply the skills offered by research psychology. Nevertheless, some of the planning students made use of the opportunities to learn from new ideas about approaching research, to acquire research skills (e.g., do data analysis using SPSS), and to get acquainted with academic writing standards that could improve their research reports. These findings mirror the findings of related research that practicums provide an opportunity to mentees to overcome resistance to mentors’ way of thinking and to help mentees to appropriate professional ways of thinking (Bagley and Shaffer 2015). In taking note of the planning students’ experiences (although shaped by their lack of experience and/or limited understanding of practice) of participating in interdisciplinary near-peer mentoring, it becomes clear that more (and, in particular, similar) learning opportunities should be provided to students to develop the research skills the profession requires.

Suggestions to enhance interdisciplinary near-peer research mentoring for urban planning students include providing more structure for the mentor–mentee interaction, promoting an understanding of interdisciplinary collaboration, and improving communication between the mentors and the planning and psychology lecturers to clarify the course requirements and the roles of the mentors. As Yocom et al. (2012, 12) argue, “A key element to generating collective understanding is communication.” Therefore, we recommend activities to build understanding (e.g., regarding expectations of mentors and mentees) between disciplines early in the program. The incorporation of such activities would also address one of the United Nations Educational, Scientific and Cultural Organization’s (UNESCO) core skills for

sustainable urban development, which is collaboration competency or the competency gained from learning from and working with others to solve problems (Taylor et al. 2021).

Our study had a number of limitations. In the first place, as we relied on students' self-reporting to investigate their experiences, we cannot make any objective claims about whether the program improved their research or report-writing skills although the mentees experienced the feedback from mentors as helpful. Furthermore, as we designed the experiential learning and near-peer mentoring components based on academic requirements, the kind of research the planning students learnt about was not necessarily the kind they would need in practice (Pojani, Kimpton, and Rocco 2019).

Considering that we focused on undergraduate planning students' experiences of interdisciplinary near-peer mentoring, we acknowledge that students' lack of industry experience—where planning practice often intersects other disciplines—may have affected their experiences of the mentoring program. The study could be replicated using postgraduate students with industry experience to establish how students who have worked with other professions would experience interdisciplinary near-peer mentoring. Such an investigation could potentially reveal useful insights for revisiting the curriculum.

Our study was located in South Africa and, as the level of training (undergraduate vs. master's degree) provided in planning programs and the content of curricula differ from country to country, the transferability and replicability of our findings may be limited. Although issues of gender, race, age, and culture were not brought into play during the FGDs, the diversity of the South African population was represented in the mentor–mentee pairings, and future studies could examine these aspects. Moreover, future research could examine the effects of the different levels of scholarship of mentors and mentees on the nature of their relationship.

The findings of our study indicate that new approaches, such as interdisciplinary research mentoring and experiential learning, could expand planning students' range of skills and so prepare them for their careers. In light of the serious challenges facing humanity and our planet, not only now but also in the future, training that emulates real-life relationships and contexts may produce students who are more adept at contributing to sustainable, collaborative, and wise solutions.

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## References

- Alexander Ernest R. 2001. "What Do Planners need to Know?" *Journal of Planning Education and Research* 20 (3): 376–80.
- Bagley Elizabeth, Shaffer David Williamson. 2015. "Learning in an Urban and Regional Planning Practicum: The View from Educational Ethnography." *Journal of Interactive Learning Research* 26 (4): 369–93. <https://www.learntechlib.org/primary/p/40517/>.
- Bahrainy Hossein, Manshadi Elham Fallah. 2017. "The Most Important Skills an Urban Planner Needs in a Developing Country: The Case of Iran." *Planning Practice & Research* 32 (4): 466–77.
- Baldwin Claudia, Rosier Johanna. 2017. "Growing Future Planners: A Framework for Integrating Experiential Learning into Tertiary Planning Programmes." *Journal of Planning Education and Research* 37 (1): 43–55.
- Baum Hoswell S. 2005. "Research and Planning Both Have Methods, But Research Is Not Planning." *Journal of Architectural and Planning Research* 22 (2): 121–28.
- Boyer Robert H. W. 2020. "Team-Based Learning in the Urban Planning Classroom." *Journal of Planning Education and Research* 40 (4): 460–71.
- Braun Virginia, Clarke Victoria. 2006. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3 (2): 77–101.
- Bryman Alan. 2016. *Social Research Methods*. International ed. Oxford: Oxford University Press.
- Chapman David W. 2009. "Knowing Our Places? Contexts and Edges in Integrating Disciplines in Built Environment Education." *Journal for Education in the Built Environment* 4 (2): 9–28.
- Coiacetto Eddo. 2008. "Learning from Project-Based Learning: A Land Development Studio Account of Practice." *Australian Planner* 45 (4): 28–34.
- Dawkins Casey J. 2016. "Preparing Planners: The Role of Graduate Planning Education." *Journal of Planning Education and Research* 36 (4): 414–26.

Du Toit Jacques. 2010. "The Methodological Rigour of South African Master's and Doctoral Planning Theses: 1963-2007." *Stads- en Streekbeplanning—Town and Regional Planning—Meralo ya Ditoropo le Mabatowa* 56:3–9. <https://hdl.handle.net/10520/EJC108706>.

Edgcomb Michelle R., Crowe Heljä Antola, Rice Jeffrey D., Morris Sherri J., Wolffe Robert J., McConnaughay Kelly D. 2010. "Peer and Near-Peer Mentoring: Enhancing Learning in Summer Research Programmes." *Council on Undergraduate Research Quarterly* 31 (2): 18–25.

Edwards Mary M., Bates Lisa K. 2011. "Planning's Core Curriculum: Knowledge, Practice, And Implementation." *Journal of Planning Education and Research* 31 (2): 172–83.

Eizenberg Efrat, Shilon Mor. 2016. "Pedagogy for the New Planner: Refining the Qualitative Toolbox." *Environment and Planning B: Planning and Design* 43 (6): 1118–35.

Elwood Sarah A. 2007. "Experiential Learning, Spatial Practice, and Critical Urban Geographies." *Journal of Geography* 103 (2): 55–63.

Freestone Robert, Thompson Susan, Williams Peter. 2006. "Student Experiences of Work-Based Learning in Planning Education." *Journal of Planning Education and Research* 26 (2): 237–49.

García Ivis, Jackson April, Harwood Stacy A., Greenlee Andrew J., Lee C. Aujean, Chrisinger Benjamin. 2021. "Like a Fish Out of Water. The Experience of African American and Latinx Planning Students." *Journal of the American Planning Association* 87 (1): 108–22.

Goldstein Harvey A. 2012. "The Quality of Planning Scholarship and Doctoral Education." *Journal of Planning Education and Research* 32 (4): 493–96.

Greenlee Andrew J., Edwards Mary, Anthony Jerry. 2015. "Planning Skills: An Examination of Supply and Local Government Demand." *Journal of Planning Education and Research* 35 (2): 161–73.

Guzzetta Jacqueline D., Bollens Scott A. 2003. "Urban Planners' Skills and Competencies. Are We Different from Other Professions? Does Context Matter? Do We Evolve?" *Journal of Planning Education and Research* 23 (1): 96–106.

Hesse-Biber Sharlene. 2017. *The Practice of Qualitative Research*. 3rd ed. Thousand Oaks, CA: SAGE.

Hurlimann Anna, Cobbinah Patrick B., Bush Judy, March Alan. 2021. "Is Climate Change in the Curriculum? An Analysis of Australian Urban Planning Degrees." *Environmental Education Research* 27 (7): 970–91.

Karvonen Andrew, Cvekotic Vladimir, Herman Pawel, Johansson Karl, Kjellström Hedvig, Molinari Marco, Skoglund Mikael. 2021. "The 'New Urban Science': Towards the Interdisciplinary and Transdisciplinary Pursuit of Sustainable Transformations." *Urban Transformations* 3 (9): 1–13.

- Kaufman Sanda, Simons Robert. 1995. "Quantitative and Research Methods in Planning: Are Schools Teaching What Practitioners Practice?" *Journal of Planning Education and Research* 15 (1): 17–33.
- Kotval Zenia. 2003. "Teaching Experiential Learning in the Urban Planning Curriculum." *Journal of Geography in Higher Education* 27 (3): 297–308.
- Maruna Marija, Rodich Danijela Milovanovic, Colic Ratka. 2018. "Remodelling Urban Planning Education for Sustainable Development: The Case of Serbia." *International Journal of Sustainability in Higher Education* 19 (4): 658–80.
- McCarthy John, Bagaee Samer. 2014. *Sharing Good Practice in Planning Education*. York: Higher Education Academy.  
<https://www.heacademy.ac.uk/sites/default/files/resources/sharing-good-practice-in-planning-education1.pdf>.
- Mitrany Michal, Stokols Daniel. 2005. "Gauging the Transdisciplinary Qualities and Outcomes of Doctoral Training Programs." *Journal of Planning Education and Research* 24 (4): 437–49.
- Padt Frans J. G., Bose Mallika, Luloff A. E. 2020. "Teaching Public Engagement in Research Using the Engagement Tool." *Journal of Planning Education and Research* 21 (4): 353–66.
- Perez Mirzam C. 2018. "Undergraduate Research, Student-Student Mentoring, and Student-Faculty Collaboration in a DH-Intensive Seminar on Early Modern Spanish Cities." *Bulletin for Spanish and Portuguese Historical Studies* 43 (1): Article 6.
- Pojani Dorina, Kimpton Anthony, Rocco Roberto. 2019. "Planning Students' Conceptions of Research." *Journal of Planning Education and Research* 12 (1): 39–54.
- Rooij Remon, Frank Andrea I. 2016. "Educating Spatial Planners for the Age of Co-Creation: The Need to Risk Community, Science and Practice Involvement in Planning Programmes and Curricula." *Planning Practice & Research* 31 (5): 473–85.
- Rosier Johanna, Slade Christine, Perkins Tim, Baldwin Claudia, Coiacetto Eddo, Budge Trevor, Harwood Andrew. 2016. "The Benefits of Embedding Experiential Learning in the Education of Planners." *Journal of Planning Education and Research* 31 (5): 486–99.
- Sen Siddhartha, Umemoto Karen, Koh Annette, Zambonelli Vera. 2017. "Diversity and Social Justice in Planning Education: A Synthesis of Topics, Pedagogical Approaches, and Educational Goals in Planning Syllabi." *Journal of Planning Education and Research* 37 (3): 347–58.
- Senbel Maged. 2012. "Experiential Learning and the Co-Creation of Design Artifacts: A Hybrid Urban Design Studio for Planners." *Journal of Planning Education and Research* 32 (4): 449–64.
- Sturzaker John. 2014. "I Think That Sometimes Reading Is Overrated: Tactical, Strategic, and Epistemological Reflections on Planning Education." *Journal of Planning Education and Research* 34 (4): 465–71.

Taylor Jonathan, Jokela Salla, Laine Markus, Rajaniemi Juho, Jokinen Pekka, Häikiö Liisa, Lönnqvist Antti. 2021. "Learning and Teaching Interdisciplinary Skills in Sustainable Urban Development—The Case of Tampere University, Finland." *Sustainability* 13:1180.

Tyson B. Trevor, Low Nicholas P. 1987. "Experiential Learning in Planning Education." *Journal of Planning Education and Research* 7 (1): 15–27.

Walkington Helen, Stewart Kearsley A., Hall Eric E., Ackley Elizabeth, Shanahan Olin. 2020. "Salient Practices of Award-Winning Undergraduate Research Mentors—Balancing Freedom and Control to Achieve Excellence." *Studies in Higher Education* 45 (7): 1519–32.

Watson Vanessa, Odendaal Nancy. 2012. "Changing Planning Education in Africa: The Role of the Association of African Planning Schools." *Journal of Planning Education and Research* 33 (1): 96–107.

Willig Carla. 2013. *Introducing Qualitative Research in Psychology*. 3rd ed. Maidenhead: Open University Press.

Yocom Ken, Proksch Gundula, Born Branden, Tyman Shannon K. 2012. "The Built Environments Laboratory: An Interdisciplinary Framework for Studio Education in the Planning and Design Disciplines." *Journal for Education in the Built Environment* 7 (2): 8–25.

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