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Feedforward Instruction in Legal Research and Writing Courses

By Taryn Marks

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I. Introduction

When teaching a legal research or writing class, one of the most challenging aspects is aligning instructor expectations with student performance. We give students an assignment and are dismayed with the results, asking ourselves either how we failed to communicate our goals or how students could have failed to understand our instructions. Sometimes we ask ourselves both questions, wavering between objects of blame. For me, the largest disconnect occurred between my expectations of the level of detail needed in a research log and students’ continued failure to provide it. After researching and experimenting with a variety of techniques intended to better align what I meant with what students thought I meant, to varying degrees of success, I stumbled across the concept of feedforward instruction. Utilizing feedforward instruction in an in-class exercise dramatically increased student understanding of my expectations regarding research logs. In this Article, I will explain the problem I encountered and the solution I found in feedforward instruction. I will extrapolate from my experience how to use feedforward instruction in different assignments, providing an overview of how other instructors can adapt the exercise to fit their own classrooms and assignments.

II. The Problem

When teaching legal research, I believe that one of the most critical things for students to learn is research logs.1 My definition of research log is expansive, as students must do more than provide an answer to a research question and explain how they arrived at it. Students must provide a detailed description of how they found that answer, essentially providing step-by-step instructions that the instructor can follow. Along with those instructions, students must also detail why they researched as they did and, for each step, comment on why they chose the source and search terms they did, why they clicked on the result they did, and why they chose to use a certain result in their answer. The research log, in essence, provides an annotated picture of how and why the student solved the research problem. I tell students that a successful research log is one that anyone, regardless of their legal research experience, could understand and replicate. As demonstrated by the sample research logs I use in my own feedforward exercise (reproduced in Appendix B), the level of detail students must provide in their research logs is quite high.

There are a variety of pedagogical reasons why I use research logs and require such a high level of detail from my students. I am especially cognizant of the need for such pedagogical foundations given that the level of detail I expect from students is unlikely to be required in practice. But whether teaching students how to research in a first-year course or improving students’ research abilities in an advanced legal research course, requiring detailed research logs has significant pedagogical value. First, it forces students to slow down when they are researching. When students steamroll through the research process in favor of finding an answer, they frequently overlook critical pieces of information. Second, the research log teaches students critical analysis, as they must explain their choices and reasoning. Third, the research log introduces the students to the concept of tracking their time. Fourth, the research log ingrains in students the practice of justifying a search, which can be a critical skill when asked

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1 I recognize the term research log has many different meanings and connotations that vary by instructor. I do not require students provide a research log in a specific format or organized in a specific way, such as by source or result. Rather, I ask that students provide an organized, detailed explanation of how they solved the research problem and why they chose the path, sources, and searches that they did. How students present that information is up to them.
Feedforward is evaluative information provided to a student prior to an assessment rather than after it, essentially the opposite of feedback.”

by a partner to justify their choices and costs involved. Last, detailed and replicable research logs prevent students from becoming mired in research rabbit holes and from mindlessly clicking around on a website, because they have to monitor what they are doing and explain why they are doing it. Such critical self-evaluation helps to keep them on track while researching.

Before I started using feedforward instruction, I spent significant time teaching and explaining research logs, inside and outside of class. But many of my students never provided the level of detail I wanted. I frequently did not know how students had arrived at a certain result. Students omitted multiple steps in writing their logs and did not explain why they undertook a specific step. I tried several different methods intended to increase student understanding of the level of detail that I wanted. I changed how I explained the research log; I added a rubric that detailed it; I provided a sample research log for them to look through; I told them that they should be able to hand their research log to a non-law student who should be able to replicate their process and explain the rationale behind it. Still, students struggled.

Even more frustrating, students continued to misunderstand even after I provided significant written and oral feedback on their research logs, pointing out specific areas where I could not follow their research path and providing suggestions for how to include more detail. Students simply did not connect my instruction and feedback with their future performance. My anecdotal evidence of students’ inability to incorporate feedback into future assessments also has empirical support: studies show that students frequently fail to either adequately analyze the feedback given to them or fail to transfer it to a future assignment, despite the importance of feedback and the potential benefits students can reap from properly analyzing and implementing it in the future.3

Then, I stumbled across an Australian law professor’s article discussing the use of feedforward in a first-year law course.4 The challenges and solution she described aptly fit the struggles I was having with research logs and my own students. So in the fall of 2018, I decided to adapt and test one of her feedforward solutions in my Advanced Legal Research course.

III. Implementing Feedforward

Feedforward is evaluative information provided to a student prior to an assessment rather than after it, essentially the opposite of feedback.5 Feedback, however, can effectively operate as feedforward if students utilize the feedback provided on an earlier assessment to improve their performance on a future assessment. The concept can be used both to encourage students to utilize feedback on future assessments and to highlight instructor expectations and address common mistakes prior to an assessment.

When a student acts simply as a “passive receiver of feedback knowledge,” such as occurs when a student reads comments from an instructor on an assessment, the student often cannot “close the gap between current and desired performance.”6 Both instructor and student contribute to this problem. During feedforward instruction, an instructor must clearly articulate her expectations to students and shift to a more learner-focused environment.7 In parallel, students who participate in a feedforward

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2 Along with others: many have written about the struggles students have with feedback. See, e.g., Anna P. Hemingway, How Students’ Gratitude for Feedback Can Identify the Right Attitude for Success: Discipline Optimism, 19 Persps. 169, 172 (2011).


4 Id. at 319. In Australia, law school begins at the undergraduate level, so I needed to adapt some of her discussion for a graduate-level program. In her article, Withey describes how she created a 30-page feedback guide that she required students to read. Then, after reviewing a sample exercise, students completed their own exercise and also submitted a feedback form analyzing their own work, which asked targeted questions based on the learning objectives of the course. They then received feedback from the instructors but were not provided with their grades. Then, based on the feedback, they estimated their grades before the instructors released the grade. They repeated a similar exercise before their second exercise.


6 Id. at 795.

7 Id. at 790.
exercise must actively engage with the instructor’s expectations by internalizing those expectations and assessing their learning as they are doing it, allowing them to feedforward that knowledge into a future assessment. Successfully implemented, feedforward exercises also encourage student self-reflection on their strengths and weaknesses, an important skill often neglected in law school. Taken together, these practices strengthen students’ ability to apply what they have learned to future tasks and new materials.

A. Implementing a Feedforward Exercise in the Classroom

After reading about feedforward, I created an in-class exercise for research logs that uses its principles. I purposely timed the exercise with the unveiling of the first homework assignment, so that as students started working on the first assignment, the memory of the feedforward exercise would be fresh in their minds.

To create the exercise (reproduced in Appendix B), I first pulled research logs from previous Advanced Legal Research (ALR) classes. In the current ALR class, we had just moved from a module on how to research statutes into one discussing administrative law, so I chose research logs related to a hypothetical that dealt with statutory and administrative implementation of an international treaty. I purposely chose example research logs that had earned high, middle, and low grades. I also purposely included example research logs that had used a variety of different methods and sources: one example only used Westlaw to answer the question, while another used Google and government websites.

In the in-class exercise, I provided my current students with the full research hypothetical and the questions that previous students were asked to answer based on the hypothetical. I also gave my current students the answers to the questions. Then, I duplicated four example research logs that previous students had turned in related to the questions. After each sample research log, I asked my current students to first attempt to walk through the process provided in the samples. If they were confused or could not follow the process, I asked them to annotate the research log to alleviate their confusion or fill in the gaps.

On a separate sheet of paper, I gave my current students the research log rubric that I used to grade the research logs (reproduced in Appendix A). Then, I asked my current students to review the research log rubric, assign a grade to the example research log provided, provide suggestions for improvement, and explain why they assigned that grade. For a variety of reasons, I randomly paired each student with a partner to do this exercise.

As my current students tried to replicate the research process using the research log examples from former students, the primary comment I heard as I wandered through the room was, “There’s not enough detail here! I don’t know how they got there!” Almost every student in the class indicated in their comments ways the example research logs could be improved by adding more detail about the research process.

After students had reviewed and graded each example, I collected their responses and calculated the average and range for each one. I then led a discussion of each research log, asking one pair of students to explain how they had graded the example, and what would have been needed for that example to have earned the grade.

8 Id.


. . . I made almost no comments requesting additional detail, because the students’ research logs contained the level of detail and specificity I had requested.

This revealed a second, unexpected reward: it leveled the research log playing field and provided an opportunity for all students to succeed. In an earlier class, I had observed a distinct difference in research log quality between students who previously had me as an instructor and students who had not. Now, in the first assignment, almost all students provided me with the level of detail that I was seeking. For students who had previously been in my class, it reminded them of the need for a high level of detail and specificity in research logs. For all students, it both increased their understanding of my expectations and aligned their understanding with mine. When I graded the first assignment, I did not see a difference between students who had previously had me and those who had not. In fact, most of the top grades went to students I had not previously had in class.

Feedforward instruction also encouraged higher-level student reflection of both the research log and grading process. As they graded the sample research logs, students experienced the struggles that we as instructors face when grading an inadequate or weak assignment. Stepping into the role of a person unfamiliar with another’s research log, my current students realized how difficult and confusing it was to follow an unclear research log. They had to grapple with figuring out what comments to give others in order to improve their research log, which in turn improved their understanding of what a research log needed to contain. I believe this ultimately led to an internalization of the level of detail I expected.

Finally, doing the exercise substantially decreased the amount of time I spent grading the research logs. Providing substantive comments regarding improvement takes significant time, as I would detail to students what steps of the research process were missing, pointing out areas where the students did not have enough detail, or asking the students to explain the reasoning behind their research choices. Having research logs that needed little or no improvement meant that I could focus instead on providing shorter, positive comments, which ultimately saved time. Additionally, it decreased student frustration with the assignment because they knew what they needed to do to earn high marks, and their efforts were rewarded when I gave them those high marks.

C. Drawbacks of Feedforward Instruction

The biggest drawback to this exercise was the time it took to do in class: I needed about half of a two-hour class period. This time could have been decreased by having the students do the exercise as homework and then discussing the results in class. But without the benefit of a partner (as well as an instructor hovering over them), I do not think that students would have done the exercise at home as intensely as they did in class. Perhaps making it a low-stakes, graded assignment could encourage a high level of engagement at home and solve this issue. Furthermore, I gained valuable information...
from listening to student comments as they tried to replicate the example research logs. Those comments provided me with some interesting fodder for the later discussion, a positive that would have been missing had the students done the exercise at home.

Another drawback was the amount of time it took to prepare the exercise. Although I had previously created a rubric for the research log, I needed to update it for the current class. I spent time sifting through the research logs from a previous class in order to find examples of differing quality that demonstrated to students both what a high and low level of detail looked like. I also wanted to ensure that the research logs reflected different methods and sources in order to demonstrate to students that the level of detail needed in a research log stayed the same regardless of whether they used Google, Westlaw, Lexis, or another source when researching. It also took time to draft the instructions for the exercise and craft questions that would lead the students through the exercise. Last, I spent time preparing discussion questions that would highlight for students the important aspects of the assignment.

But the time I saved grading the assignments, especially the first one, was significantly more than the time that I spent preparing this exercise. Additionally, given the increased student confidence and strong research logs that I received, I felt the time spent before and during class was well worth it.

Indeed, I recently repeated the exercise again in my upper-level Business Law Research course to identical results, and I intend to use it every time I teach.

IV. Creating Feedforward Instruction in the Future

Because of the success of the feedforward exercise and its limited drawbacks, I will be using it again, and will also be actively looking for other opportunities to provide feedforward instruction to my students. For those readers who do not require research logs or for those seeking other feedforward opportunities, I have created general guidelines for crafting future feedforward exercises, which I describe below.

First, **identify an area of student improvement.** If possible, the area of student improvement should relate to either a learning objective or course goal. For me, one of my overarching course goals is that students learn better critical analysis through their research logs. I had already identified research logs as an area in which my students could most improve, so I focused on them first. For other instructors, areas of student improvement should be easily identifiable based on previous assessments or student evaluations. Newer instructors can consult with more experienced instructors about areas of student improvement that tend to be common across classes.

Second, if possible, **precisely identify the causes of student weaknesses.** For many of us, this will be a process of trial and error as we adjust one area of instruction to see if it affects student learning. Over time, I came to realize that students did not understand the level of detail that I wanted them to provide in their research logs in part because they were too mired in the process. Students could not step outside of their own perspective to see how confusing it was for an outsider to follow. Creating a rubric addressed some of the issues; asking students to think about how they would write the log for someone who was not a law student addressed it a little bit more. But in the midst of an assignment, students either forgot my admonitions or were too time-constrained to make effective use of the rubric. I now believe this was in part because they had not yet internalized the necessary parts of a research log. Only when students stepped outside of the role of “writer” and into the role of “replicator and evaluator” did they understand the level of detail needed. Doing the feedforward exercise forced students to internalize that process. It may take time and experimentation, but it is important to target the potential reasons for student weakness, which will help you in the next step.

Third, **identify as narrowly as possible the steps needed to be successful in the assessment; then identify the steps you as an instructor take when you evaluate students on that assessment.** For example, if students struggle with critical analysis, reflect on how you conduct a critical analysis, or the steps a student would need to
It was gratifying to see student confidence and success increase following the research log feedforward instruction exercise described in this Article.”

V. Conclusion
Feedforward instruction is an additional tool that instructors can use to increase student understanding of instructor expectations, to create better alignment between instructors’ learning objectives and student achievement of those objectives, and to foster a learner-centered environment that engages students in critical analysis. It was gratifying to see student confidence and success increase following the research log feedforward instruction exercise described in this Article. Such a feeling is one all instructors should experience. By implementing the example provided in this Article or using it as a model to create other feedforward exercises, it is my hope that other instructors are able to see similar student achievements in their classrooms.

14 An excellent resource for conducting this type of reflective, step-by-step process is Walter Dick et al., The Systematic Design of Instruction (8th ed. 2015), particularly chapters 2 and 3.

15 Note that for some processes, the two pieces of Step 3 will be essentially identical.

16 This headnote example came from a presentation at the AALL Annual Conference in 2019 by Stacia Stein, in the program, “Instruction Zone: Active Learning Ideas Showcase.”
# Appendix A

## Research Log Rubric

<table>
<thead>
<tr>
<th>Research process</th>
<th>Research rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains research process, including sources chosen, search terms, search methods used, search results chosen, etc. Process description is clear and can be easily replicated by another person.</td>
<td>Explains research rationale, including why used sources chosen, why used search terms, why used search methods, why chose specific search results, etc. Rationale explanation is clear and can be understood by a person unfamiliar with legal research.</td>
</tr>
<tr>
<td>Explains research process, including sources chosen, search terms, search methods used, search results chosen, etc., but may miss steps in the process in one or more questions. Process description may not be as clear and/or is more difficult to follow.</td>
<td>Explains research rationale, including why used sources chosen, why used search terms, why used search methods, why chose specific search results, etc., but may miss rationale explanation in one or more questions. Rationale explanation may not be as clear and/or may be more difficult to understand by a person unfamiliar with legal research.</td>
</tr>
<tr>
<td>Explains research process, including sources chosen, search terms, search methods used, search results chosen, etc., but misses steps in the process in one or more questions. Process description may not be as clear and/or is more difficult to follow.</td>
<td>Explains research rationale, including why used sources chosen, why used search terms, why used search methods, why chose specific search results, etc., but may miss rationale explanation in one or more questions. Rationale explanation may not be as clear and/or is more difficult to understand by a person unfamiliar with legal research.</td>
</tr>
<tr>
<td>Explanation is cursory and lacks detail in multiple steps. Explanation may be unclear and/or difficult to follow.</td>
<td>Rational explanation is cursory and lacking in multiple questions and steps. Rationale explanation may be unclear and/or difficult to be understood by a person unfamiliar with legal research.</td>
</tr>
<tr>
<td>Little to no explanation provided.</td>
<td>Little to no explanation provided.</td>
</tr>
</tbody>
</table>

(10 points)  
(8–9 points)  
(6–7 points)  
(4–5 points)  
(2–3 points)  
(0–1 points)

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17 This is the rubric I provide to students and use when grading research logs. It is divided into two parts, one that looks at the process (the step-by-step) and one that looks at the rationale (the reasons why a specific search or database was chosen). Research logs typically constitute 25 percent of a student’s final grade in my class.
Appendix B

Research Log Feedforward Exercise

Purpose and overview
The purpose of this exercise is to familiarize you with my grading criteria and research log rubrics. Every assignment and the final project will be graded using a rubric. Fifty percent (50%) of your grade for each assignment will be based on your research log, so it is important that you understand my expectations for the research log. This exercise will require you to grade sample research logs, effectively putting you in my shoes. Doing so will hopefully familiarize you with both how I grade the research logs and what you need to do in order to be successful when writing your research log.

Instructions
1. Review the research log rubrics (provided on a separate document). The key to remember about research logs is that they should provide sufficient detail to show exactly what you did when you researched and why you did what you did while you researched.

2. Read through the sample hypothetical, answers, and the sample research logs. These samples are from another class that I taught and represent (according to how I graded them) high, average, and below average examples of research logs (although not in that order).

3. For each research log, try to replicate how the student arrived at the answer that they did. As needed, annotate the sample research log with suggestions for improvement.

4. Consult the rubrics, and assign points for each portion (process and rationale). Explain why you assigned the points that you did.

5. I will then review my assessment of each of the research logs. As I do so, compare your results with my own, noting where you differed in your assessment. When you are writing your own research logs, look back to this exercise to guide you in writing a research log that will get you the grade that you want.

Sample hypothetical
A repeat client, James Walker, called you last night, very distressed. James owns an insurance agency in Gainesville, Florida. His business is on the third floor of an office building, which also has a Chinese restaurant, a tax company, a printing company, and a quilt store; the building is owned and operated by Sam Pacer.

In June of this year, a pair of geese built a nest in the flower bed just to the right of the building’s entrance. Mama goose laid eggs, while Papa goose stood guard and hissed at anyone who came too close; James once saw Papa goose charge a car that he deemed to be parking too close to the nest (Papa goose won that fight).

The next day, James noticed two eggs in the nest when he arrived at work at 7:00 a.m. When he left his office around 1:00 p.m. to grab lunch, James was dismayed to see a man destroying the nest. The man held off the geese with a hockey stick, and smashed the eggs and threw away

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18 I have duplicated the in-class exercise as I provided it to students. All of the directions are the same ones given to students. As I described above, I provided the students with four example research logs after giving them a sample hypothetical and the answers to it. The research logs duplicated on the following pages represent examples that earned high, medium, and low grades, and that took a variety of different approaches to the research problem. It may be useful to review Part III.A of this Article in conjunction with this exercise.

19 Hypothetical adapted from Jennifer Wondracek, Advanced Legal Research Assignment 6, Administrative Law, Summer 2014. The blue text immediately below the questions are the answers.
their contents. The man then covered the nest with netting and a traffic cone, presumably to stop the geese from returning to the nest. James did not recognize the man, but took down the Florida license plate number of the truck the man drove away in, 123 XYZ.

After the office closed that night, James snuck down and removed the cone and the netting, getting hissed at and chased by Papa goose in the process. That's when he called you.

James is almost positive that the geese are Canada Geese; they are definitely wild geese. He wants to know what he can do about the nest wrecking and destruction of the eggs.

a. What treaty governs this issue? Where is the treaty codified? (2 points)


b. Who handles claims related to these birds? (Hint: the answer isn't in the statute). (3 points).

   U.S. Fish & Wildlife Service

c. What laws might govern this situation? How would they apply to this situation? (8 points)

   50 CFR § 21.26, Special Canada goose permit—allows only state wildlife agencies to obtain a permit, so clearly man violated law;

   50 CFR § 21.50, Depredation order for resident Canada geese nests and eggs—allows only landowners to implement, and they have to register with FWS before they do it, they can also suspend the authority for a certain person. So, unless the person destroying the eggs was the owner and had a permit, not allowed;

   50 CFR § 21.52, Public health control order for resident Canada geese—the local public health organization had to determine that there is a health problem in order for this to apply, so again the man likely wasn't allowed

   50 CFR § 21.61, Population control of resident Canada geese—applies only to state governments, who can only conduct these activities in August.

d. Please describe your research process for this question. (6 points)

Sample Research Log #1

In Westlaw, I typed Canada Geese, then looked under statutes. Taking, possessing or killing migratory birds was the second result. The notes of decision mentioned the Migratory Bird Treaty Act. I found the treaty under treatises, in 38 CJS Game sec. 27, the fourth result, prohibited act. The treaty cited to 16 USCA sec. 703, so I knew this was right.

Answer the following questions as they apply to Sample Research Log #1

1. Attempt to replicate the process used by the student to find the answer.
   Annotate as needed with any missing details of the process.

2. Assign a grade for the research log using the research process rubric.

3. Explain why you assigned the grade that you did.

Sample Research Log #2

Googling “Canada treaty to protect Canada geese” led me to the Environment and Climate Change Canada website, which talked about Canada geese and why they are protected. Next I search “Migratory Birds Convention Act,” which led me to a 2004 bill and from there to the codification of the treaty.

Then I searched enforcement of migratory birds treaty in the US. On the U.S. Fish and Wildlife service page (third link) talked about the treaty and program that implements the treaty. Two tabs (regulations talked about wildlife laws and other regulations) and the executive order tab had information. On regulations.gov I found regulations about hunting after searching migratory birds convention.
Answer the following questions as they apply to Sample Research Log #2

1. Attempt to replicate the process used by the student to find the answer.
   Annotate as needed with any missing details of the process.

2. Assign a grade for the research log using the research process rubric.

3. Explain why you assigned the grade that you did.

Sample Research Log #3

A. In Westlaw, I found the USC and scrolled through the titles to see Conservation, since Canadian geese are protected species. A chapter called Protection of Migratory Game and a section called migratory bird act seemed useful. I googled the act, the fish and wildlife website said it was codified at 16 USC 703-12.

B. Florida Fish and Wildlife says it handles enforcement after I searched in Google for the act.

C. In the CFR, I went to 2015 and then to title 50 (Wildlife and Fisheries). Skimming I saw US fish and wildlife service and under that, taking, possession, transportation in parts 10-24. Part 21 was migratory bird permits. In Part 21, I saw section 21.50, depredation order for resident Canadian geese nests and eggs, and section 21.26, special Canada goose permit, plus 21.52, public health control order and 21.61, population control of Canada geese.

Answer the following questions as they apply to Sample Research Log #3

1. Attempt to replicate the process used by the student to find the answer.
   Annotate as needed with any missing details of the process.

2. Assign a grade for the research log using the research process rubric.

3. Explain why you assigned the grade that you did.

(If time) Sample Research Log #4

I googled using a search that involved migratory birds. The US Fish and Wildlife website talked about the migratory bird treaty act, and I went to the Permits site. From there, I saw the link for law and treaties, and on that list was the migratory bird treaty act. The section was 50 CFR part 21, on ecr.gov. Looking at the table of contents showed me it involved migratory bird permits and I confirmed this was the right treaty and gave me the correct regulations, 21.26 and 21.61.