

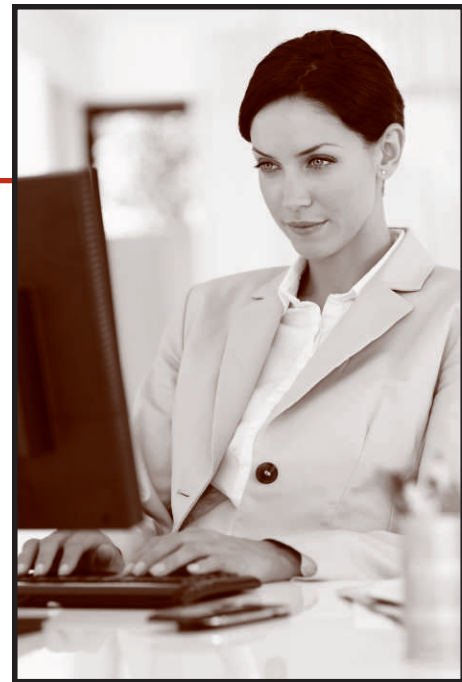
Automating Academic Literature Searches With RSS Feeds and Google Reader™

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ABSTRACT

Behavior analytic practitioners have an ethical obligation to stay abreast of the most recent research developments in their areas of expertise. Although conducting frequent and comprehensive literature searches is one way to meet this mandate, doing so can be a time intensive process. One way to reduce the effort involved in this process is setting up automated literature and news searches using RSS feeds via programs like Google Reader™. This paper outlines the steps necessary for setting up a Google Reader™ account and creating customized RSS feeds based on searches of the National Center for Biotechnology Information (NCBI) PubMed database and the World Wide Web.

Keywords: literature searches, Google Reader, PubMed, RSS feeds



The Behavior Analyst Certification Board® (BACB) Guidelines for Responsible Conduct state that Board Certified Behavior Analysts (BCBAs) and Board Certified Assistant Behavior Analysts (BCaBAs) have an ethical obligation to ensure their practices adhere to the most current scientific and professional information available in literature (BACB, 2010, Guideline 1.03 Professional Development). However, for busy professionals practicing in the field, keeping up-to-date with the most current scientific findings can be a difficult and time-consuming process. Fortunately, there are a number of free, easy-to-use technologies that can reduce the amount of effort and time required to stay current in one's area of expertise. One of these technologies, RSS feeds, was recently recommended by Carr and Briggs (2010) as a way to reduce the response effort required for staying in contact with the academic literature. The purpose of this paper is to further elaborate on Carr and Briggs' recommendations by describing in detail how users can create and manage RSS feeds using resources freely available over the World Wide Web.

RSS is an acronym that stands for Really Simple Syndication or Rich Site Summary. Websites create RSS feeds of

their content as a way to provide continuous updates to subscribers about the material they are hosting. Subscribing to an RSS feed is a relatively simple process, which requires an RSS feed address and an aggregator program that can translate and show content taken from a feed address. There are a number of different RSS aggregator programs that can display and update information from RSS feeds. This article will focus on Google Reader™ due to its compatibility across different operating systems, ability to integrate with outside applications and webpages, user-friendly interface, and accessibility from any computer that has an Internet connection. Google Reader™ is a free online RSS feed aggregator used for gathering, reading, and sharing content found on the World Wide Web (Google Reader, 2010), which allows users to add, delete, modify, and organize RSS feeds within their accounts. Alternatives to Google Reader™ (e.g., MyYahoo, Bloglines, Omea) with similar features can be found by conducting a quick Web search for "RSS aggregators."

Google Reader™ and other RSS feed aggregators are used primarily as a tool for viewing news and blog-related RSS feeds. Individuals interested in subscribing to feeds need only collect the RSS feed address and enter it into

their RSS feed aggregator program. Behavior analytic practitioners can use RSS feeds to track real-time updates from any relevant website. For example, many academic journals offer RSS feeds, which automatically update subscribers whenever a new issue is published (see Carr & Briggs, 2010, p. 15, for a list of relevant journals with RSS feeds). In addition, some academic search engines allow users to create customized RSS feeds based on their own searches of the literature. When users subscribe to a customized RSS feed, their search results are automatically updated in the program they use to read their feeds.

This tutorial describes the steps necessary for creating and managing RSS feeds. The Table summarizes the topic areas, learning objectives, and purpose of the activity for each section of the tutorial. Informal observations of several users who followed these steps indicated that anyone with basic knowledge of website navigation easily could complete the tutorial. The average time required to complete all the steps took from 30 min to 1 hr.

Setting Up an Account in Google Reader™

The first step in creating RSS feeds is to create a Google Reader™ account.

Table. Topics Reviewed in RSS Feed Tutorial

Topic	Learning Objective	Purpose
Setting up a Google Reader™ account	Users will be able to create a Google Reader™ account.	Users will have a single location where they can view, add, delete, modify, and organize all of their collected RSS feeds.
Adding RSS feed to Google Reader	Users will be able to add RSS feeds generated by websites.	Users will be notified in real-time when websites are updated with new content (e.g., new journal issues).
Interacting with RSS feed subscriptions	Users will be able to organize and share individual feed items.	Users will be able to share important research information with their advisors, co-workers, or even the public.
Creating customized RSS feeds from the PubMed database	Users will be able to generate their own RSS feeds from content in the PubMed database.	Users will be notified in real-time when new publications in their areas of interest are added to the PubMed database.
Creating customized RSS news feeds with Google Alerts	Users will be able to generate their own RSS feeds from news content taken from the World Wide Web.	Users will be notified in real-time when various media (e.g., news, video, blogs, discussion groups) report on their topics of interest.
Adding RSS feed bundles	Users will be able to subscribe to pre-packaged RSS feed bundles organized by category.	Users will be notified in real-time when multiple media sources report on a category of interest.

If a user already has an account registered with Google, he or she should skip to the next section, “Adding an RSS Feed to Google Reader™.”

1. OPEN a browser (e.g., Internet Explorer, Safari, Mozilla Firefox, Google Chrome).
2. TYPE *www.google.com/reader* into the browser address bar or TYPE “google reader” into a search engine textbox and navigate to the Google Reader™ homepage.
3. CLICK the “Create an account” link.
4. FILL IN the requested information on the account registration page.
5. After reviewing Google’s Terms of Service and Privacy policy, CLICK the “I accept. Create my account” button located at the end of the registration form. Users will then need to confirm the account subscription by clicking a link that will be e-mailed to them.
6. CLICK the “My Account” link located in the upper right corner of the screen.
7. CLICK the “More »” link underneath the “Try something new” section located in the lower left corner of the page.

8. SCROLL DOWN the alphabetical listing and CLICK on the “Reader” link.

Adding an RSS Feed to Google Reader™

After creating a Google Reader™ account, feeds can be added from any site that supports this feature. An easy way to discover whether a site supports RSS feeds is to conduct a Web search that includes the name of the site followed by a comma and the word “RSS.” For example, the steps below demonstrate how to find and add an RSS feed designed to track recent publications in the journal *Behavior Modification*.

1. OPEN a browser (e.g., Internet Explorer, Safari, Mozilla Firefox, Google Chrome) to a search engine page (e.g., *www.google.com*, *www.yahoo.com*, *www.bing.com*).
2. TYPE “Behavior Modification, RSS” into the search textbox and press ENTER.
3. CLICK the link titled “Behavior Modification – RSS Feeds.” The link should be located close to or at the top of the search results.
4. CLICK the “Recent issues” link under the RSS feeds title. Notice that other feeds are available here, as well.

5. HIGHLIGHT the feed address, *bmo.sagepub.com/rss/recent.xml*, shown in the browser address bar.
 6. RIGHT CLICK the highlighted text and SELECT “Copy” to record the highlighted text.
 7. LOGIN to your Google Reader™ account (*www.google.com/reader*).
 8. CLICK the “Add subscription” button located in the upper left corner of the screen.
 9. CLICK inside the text box that appears.
 10. RIGHT CLICK and SELECT the option “Paste” to insert the RSS feed.
 11. CLICK the “Add” button.
4. TYPE “B-Mod Recent Issues” in the pop-up window and CLICK “OK.”
 5. REPEAT steps 1 and 2.
 6. SELECT the “New folder . . .” option in the menu that appears.
 7. TYPE “Journals” in the pop-up window and CLICK “OK.”

Upon subscribing to an RSS feed, users have a number of options to manipulate individual items within their feeds. For example, clicking on the newly created “B-Mod Recent Issues” feed will display the items from the feed in the main portion of the screen. Underneath each item is a list of options including “Add star,” “Like,” “Share,” “Share with note,” “E-mail,” “Keep unread,” and “Edit tags.”

Once a feed is added, the latest results from the search will appear directly in the Google Reader™ account. Henceforth, whenever a new issue of *Behavior Modification* is posted on the journal’s website, the feed results in the user’s Google Reader™ account will update automatically and show information about the latest issue.

In addition to conducting a web search, another way to discover if RSS feeds are supported is to look for the orange “RSS” icon located on the homepage of websites hosting frequently updated content. This icon usually means that a site supports RSS feeds. To add feeds using this icon, click it or the text next to it and copy the browser address into a Google Reader™ account using the same steps described above. In some instances, clicking the icon will redirect users to a page with options to add the feed directly into their Google Reader™ accounts or other popular RSS aggregator programs without the need to manually copy and paste the address into their accounts.

Interacting With RSS Feed Subscriptions

When a new feed is added to a Google Reader™ account, it is listed at the bottom of the menu on the left side of the screen under “Subscriptions” (see Figure). Using this menu, feeds can be further organized, renamed, sorted, or put into folders. The steps below illustrate some of these functions using the recently added “Behavior Modification recent issues” feed subscription.

1. In the Google Reader™ account, CLICK once on the recently added “Behavior Modification recent issues” feed to highlight it. Note that the entire feed subscription name may not be visible.
2. HOVER the mouse over the feed and click the small upside down triangle that appears to the right of the feed title (see Figure 1).
3. SELECT the “Rename subscription . . .” option in the menu that appears.

1. *Add star:* Starring an individual feed item adds the item to the user’s “Starred items” folder located underneath the “Add a subscription” button in the upper left corner of the screen (see Figure 1). Users can star feed items from different feeds and combine them in this folder. One potential use of this folder is to store feed items containing information on a particular topic of interest.
2. *Like:* Clicking the “Like” option underneath a feed item will publicly add a user’s name to a list of anyone else who “Likes” the same item. One way to determine the popularity of a particular feed item is by assessing how many people “Like” it.
3. *Share:* Clicking the “Share” option underneath a feed item will add the item to the user’s “Shared items” folder located underneath the “Starred items” link in the top left corner of the screen (see Figure 1). Feed items in a user’s “Shared items” folder can be viewed by the public or can be restricted to particular individuals or groups. This feature could be used to share feed items among a research team, co-workers, or even the public.
4. *Share with note:* Using the “Share with note” option on an individual feed results in the same outcome as the “Share” option, with the exception that it provides the user with an opportunity to attach a comment to the feed item before it is shared. Users could use this option to attach opinions or draw their reader’s attention to a particular point made in the content listed in the feed before publicly sharing.
5. *Email:* Users can e-mail individual feed items, thus providing users with an easy way to quickly share important feed items with colleagues.
6. *Keep unread:* Clicking the “Keep unread” button prevents the feed from being marked as viewed. This feature could be used to remind a reader to revisit the item.

Figure. Screenshot and associated descriptions of Google Reader's™ main menu bar following completion of the tutorial.

The image shows a screenshot of the Google Reader interface with a vertical list of callout boxes on the left. Each box contains a description of a feature, with an arrow pointing to the corresponding element in the menu bar on the right.

Callout Boxes (Left):

- 1. New RSS feeds can be added by clicking the “Add a subscription” button and inputting the RSS feed address in the textbox that appears.
- 2. Users can create a publicly accessible page where they can share individual feed items with all visitors or specific friends.
- 3. Users can browse Google’s pre-packaged RSS feed bundles by clicking on the “Browse for stuff” link.
- 4. All RSS subscriptions are listed in the bottom left menu bar.
- 5. RSS feed content is viewed in the main portion of the screen (not shown) to the right of the side menu bar.
- 6. While viewing feeds in the main content window (not shown), users have the option to add a star to bookmark particular feed items, add tags to assist with later searching, e-mail individual feed items, or share feeds.
- 7. Subscription feeds can be renamed, sorted, deleted, or organized by clicking the upside down arrow.
- 8. Users can change their Google Reader™ settings by clicking the “Manage subscriptions” link.

Google Reader Interface (Right):

- Top navigation: Mail, Calendar, Documents, Photos, Reader
- Header: Google reader [search box]
- Buttons: + Add a subscription
- Home [collapse] [expand]
- All items (94)
- Starred items ☆
- Your stuff [collapse]
- Shared items [icon]
- Notes [icon]
- Trends [icon]
- Browse for stuff
- People you follow [collapse] [expand]
- Explore [collapse]
- Subscriptions [collapse] [expand]
- Science (81) [collapse]
 - Cognitive Daily
 - Cosmic Variance (11)
 - National Geographic News (10)
 - NatureNews - Most rec... (10)
 - New Scientist - Onlin... (10)
 - RealClimate (10)
 - Science: Current Issue (10)
 - ScienceDaily: Latest ... (10)
 - Scientific American (10)
 - pubmed: research in a... (13)
 - Google Alerts - "beha... (1)
- Journals [collapse]
- B-Mod Recent Issues [collapse]
- Manage subscriptions »

7. *Edit tags*: The “Edit tags” option allows a user to add labels to individual feeds. These labels can assist the user when searching for individual feeds using the search textbox to the right of the “Google reader” label (in the top right corner of the screen). For example, a user could add keywords related to their research interests to relevant feed items. These items then could be located and grouped together by conducting a search within the user’s Google Reader™ account.

Users should note that individual feed items cannot be deleted from a feed subscription. However, an entire feed can be removed from a Google Reader™ account by selecting “Unsubscribe” from the pop-up menu that appears after following steps 1 and 2 in the previous section. Alternatively, users can modify their Google Reader™ and feed settings by clicking on the “Manage subscriptions” link located in the bottom left corner of the screen.

Creating Customized RSS Feeds From the PubMed Database

PubMed is a free online database comprised of citations taken from the larger MEDLINE database. Both PubMed and MEDLINE are maintained by the National Center for Biotechnology Information (NCBI). PubMed is comprised of approximately 20 million citations from the biomedical field, with more citations added daily (PubMed Help, 2010). Many popular behavior analytic journals can be found in the PubMed database, including full-text articles from flagship journals like the *Journal of Applied Behavior Analysis* and the *Journal of the Experimental Analysis of Behavior* (for a complete up-to-date list of journals in the PubMed database visit the NCBI website: <http://www.ncbi.nlm.nih.gov/>). Articles from *Behavior Analysis in Practice* can also be found in the PubMed database. When conducting searches of the PubMed database, NCBI allows users to create customized RSS feeds that display the most recent findings from a predetermined search criterion to any subscriber. Below is an example that details the steps required to create a customized RSS feed based on a search conducted in PubMed.

1. OPEN a browser (e.g., Internet Explorer, Safari, Mozilla Firefox, Google Chrome).
2. TYPE *www.ncbi.nlm.nih.gov/pubmed* into the browser address bar. Do not include “http://” at the beginning of the Web address. Alternatively, TYPE “NCBI PubMed” into a search engine textbox and navigate to the PubMed homepage.
3. CLICK the “Advanced search” link above the search box located at the top of the screen.

On the “PubMed Advanced Search” page, users may create a custom search of PubMed’s database by inserting limits. For example, a user can limit his search to particular topics, authors, or journals. The following steps demonstrate how a user would

limit his search of the term “autism” to the following journals: “*Journal of Applied Behavior Analysis*,” “*Behavior Modification*,” and “*Research in Autism Spectrum Disorders*.”

Under the “Search Builder” section of the page:

4. CLICK the blank text box to the right of the drop down box that lists “All Fields.”
5. TYPE the word *autism*.
6. CLICK the “Add to Search box” button.

After the term “autism” has been added to the search box, the search may be further limited by typing the names of the journals. To do so, under the “Search Builder” section of the page:

7. CLICK the drop down box that lists “All Fields.” SELECT the option “Journal.”
8. CLICK the blank text box directly to the right of the drop down box.
9. TYPE the title “Journal of Applied Behavior Analysis.”
10. CLICK the “Add to Search Box” button.

At this point, the search box should have the text (*autism*) **AND “Journal of Applied Behavior Analysis”[Journal]** inside it. To add the next journal, look under the “Search Builder” section of the page again:

11. CLICK inside the text box (the dropdown box to the left should still be on “Journal”).
12. TYPE the title “Behavior Modification.”
13. CLICK the drop down box to the right.
14. SELECT the option “OR” from the list.
15. CLICK the “Add to Search Box” button.

By selecting the “OR” option from the drop down box, the program will search for the term “autism” in the “Journal of Applied Behavior Analysis” OR the journal “Behavior Modification.”

The search box should now contain the phrase, ((*autism*) **AND “Journal of Applied Behavior Analysis”[Journal]**) **OR “Behavior Modification”[Journal]**. To add the final journal, go back to the “Search Builder” section of the page.

16. TYPE the title, “Research in Autism Spectrum Disorders” (the field drop down box to the left should still be set to “Journal” and the operator drop down box to the right should still be set to “OR”).
17. CLICK the “Add to Search Box” button.

The search box should now contain the phrase, (((*autism*) **AND “Journal of Applied Behavior Analysis”[Journal]**)) **OR “Behavior Modification”[Journal]**) **OR “Research in Autism**

Spectrum Disorders [Journal]. The program is now ready to conduct the customized search.

18. CLICK on the “Search” button next to the main search box to initiate the query.

A list of results from the search will appear on the screen, as well as numerous other options for modifying and organizing the generated results. Exploring these options is beyond the scope of this tutorial, but readers are encouraged to explore the utility of these features for their particular needs.

19. CLICK the “RSS” link located next to the orange icon above the search box (“”).

In the “RSS Settings” box that appears, it is possible to change the number of results that will appear in the feed, as well as the name of the feed. The following steps demonstrate how to modify both options.

20. CLICK the “Number of items displayed” drop down box and SELECT the option “50.”

21. CLICK the “Feed name:” text box.

22. DELETE the text, “(((autism) AND “Journal of Applied Behavior Analysis” [Journal . . .” and TYPE the phrase “Research in Autism.”

23. CLICK the “Create RSS” button.

24. CLICK the orange “XML” button to create your feed.

Clicking the “XML” button will open a new tab or browser window, which depending on the browser, may contain unfamiliar code or an organized list of RSS feed results. The only piece of information needed from this page is the text listed in the browser address bar. There is no need for concern if the text in the address bar appears long and incomprehensible. For example, the user might see the following address: http://eutils.ncbi.nlm.nih.gov/entrez/eutils/erss.cgi?rss_guid=1DaoU-ci3R9g_JLgZZRv9MjmGVJRvm4XsHZeKQ_VQADAI0QZ3. To copy this address:

25. LEFT CLICK once in the address bar to highlight the entire address.

26. HOVER the mouse over the highlighted address text and RIGHT CLICK.

27. SELECT “Copy” from the list of options.

Once the feed has been copied, it can be pasted into a user’s Google Reader™ account using the steps described above.

Creating Customized RSS News Feeds With Google Alerts™

In addition to helping behavior analytic practitioners keep up-to-date on the most recent scholarly publications in the field, Google Reader™ also can be used in conjunction with another free online program, Google Alerts™, to create customized RSS

feeds of the latest news, blogs, and discussions, on the World Wide Web. Feeds created from Google Alerts™ are primarily used to track journalistic updates. However, these feeds may be useful in notifying users about new research or technology being published or discussed in the media. The steps below describe how to use Google Alerts™ to create a news alert for the search term “behavior analysis.”

1. TYPE **www.google.com/accounts** into the browser’s address bar and log in.

2. TYPE **www.google.com/alerts** into the browser’s address bar or TYPE “Google Alerts” into a search engine textbox and navigate to the Google Alerts™ homepage.

3. TYPE “behavior analysis” (include the quotations) in the textbox labeled “Search terms.” Standard operators (e.g., and, or, not) may be used to customize the search terms further.

4. CLICK the dropdown box labeled “Type:” and SELECT the option “News.”

5. CLICK the dropdown box labeled “How often:” and SELECT the option “as-it-happens” to get the most frequent updates.

6. CLICK the dropdown box labeled “Deliver to:” and SELECT the option “Feed.” If a blank text box appears with the message “Your email:” instead of the “Deliver to:” dropdown box, then users must log out of their Google accounts and immediately log back in. This will create an account verification e-mail from Google. After opening the verification e-mail, users should restart with Step 1.

7. CLICK the “Create Alert” button.

The browser will then redirect to a new page where a user’s Google Alerts™ can be further managed. If this is the first time using Google Alerts™, the only alert displayed will be the one just created. From here any new Google Alerts™ can be added directly to a user’s Google Reader™ account by following the steps below.

8. In the row for the search term “behavior analysis” CLICK the “Google Reader” link located under the “Deliver to” column.

9. Following Step 8 should add the feed directly to the Google Reader™ account. However, depending on the feed, the Google Reader™ page may display the message “You are not subscribed to this feed yet.” If so, CLICK the “Subscribe” button below the message to add the customized news feed to the Google Reader™ account.

The customized news feed can now be further organized into folders with the rest of the RSS feed subscriptions in the same account.

Adding RSS Feed Bundles

Within a Google Reader™ account, users also can subscribe to popular feeds organized by category. The steps below demonstrate how to subscribe to a bundle categorized under the title “Science” into a Google Reader™ account.

1. LOG IN to a Google Reader™ account (www.google.com/reader).
2. CLICK the “Browse for stuff” link in the top left menu bar.
3. CLICK the “View all” link to the right of the “Bundles from Google” title.
4. SCROLL down the alphabetical listing of category bundles to the category labeled “Science.”
5. To view the feeds in this bundle click the “+” sign. To subscribe to all of the feeds in this bundle CLICK the “Subscribe” button to the right of the “Science” category title.

A new folder labeled “Science” will instantly be added to the list of subscriptions located to the left of the screen. Assuming all of the steps in the tutorial have been followed, the user’s Google Reader main menu bar located on the left-hand side of the screen should look similar to the figure.

Advantages and Disadvantages to Using RSS Feeds

This brief tutorial describes a convenient way for scientist practitioners to stay abreast of the most current research and news relevant to their work. There are several notable advantages to using RSS feeds: (a) they save valuable time by automatically conducting relevant searches of the literature and the World Wide Web; (b) searches are conducted frequently, which means subscribers are informed of updates usually within minutes or hours of their release; and (c) when feeds are grouped together in a program, such as Google Reader™, relevant updates can be viewed or shared from one location. Despite these advantages,

it is important to note that although RSS feeds are becoming more widespread, they are not universally supported across all sources relevant to the work of behavior analysts. For example, at the time of this writing, none of the Association for Behavior Analysis International’s journals (i.e., *The Behavior Analyst*, *The Analysis of Verbal Behavior*, *Behavior Analysis in Practice*) or Society for the Experimental Analysis of Behavior, Inc.’s journals (*Journal of Applied Behavior Analysis*, *Journal of the Experimental Analysis of Behavior*) host native RSS feeds on their websites. Given the rising popularity of RSS feeds on academic websites, it is likely that these options will eventually be offered by all journal websites. Until then, however, users should be aware that their options might be limited in terms of the content that is available to track. Another disadvantage that might affect the utility of customized RSS feeds from PubMed is that the PubMed database does not contain all periodicals relevant to behavior analysts. Therefore, before creating customized RSS feeds, users should make themselves aware of what sources the customized feed is actually searching. Some of these issues may be resolved over time as RSS becomes more standardized and search databases increase the number of sources they allow users to track. However, until then, RSS feeds should be viewed as a useful supplement that assists behavior analytic practitioners with staying in contact with some of the relevant literature.

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