Educational Resources on Supernovae for Children

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Abstract. The National Science Education Standards (1996, National Academy Press) suggest mention of objects like the “sun, moon, stars” in grades K-4 and element formation in grades 9-12. Children’s librarians and some astronomy librarians should know about some of the resources for children on supernovae not only because supernovae are critical to higher element formation, but also to educate others about the universe’s expansion and stars.

In addition, basic bibliometrics on these resources yields lessons on the importance of using many indexes, the pattern of literature for children on supernovae, the types of resources on supernovae, and the scattering of resources/information for children on supernovae.

1. Method

Educational resources for children on supernovae were collected in many forms: 1. Books, 2. ERIC Reports (print resources on education), 3. Internet Sites, 4. Citations for resources from databases like the Astrophysics Data System, Kid Quest and Junior Quest (Proquest Databases), World Cat (a First Search database), Google.com, and the ERIC (Educational Resources Information Center) database. Different search strategies were used like browsing book shelves, using databases (ERIC, Library Literature, ADS, World Cat, etc.), asking others for help, using Internet search engines, searching through websites (that is, looking at the links in websites), and looking at Science News@NASA email. The materials were read and the following results were determined.

2. Results

Internet sites for children on supernovae have some better features than print, like:

1. Links to other sites
2. Affiliation with NASA and their experts
3. More current data
4. Comments/Feedback Sections
Figure 1. The “Indexes Used” graph shows that a wide variety of indexes need to be used to get all the information on this topic. ADS, Kidquest and Proquest had many resources/citations, but I did not retrieve them. ADS actually had over 16,000 hits for the search terms “educational (materials or resources) and children and (supernovae or supernova)”. Google.com actually yielded over 550 hits for the search terms “educational resources for children on supernovae”, but only two were retrieved for this poster. Many other Google.com sites may have been very helpful, but I did not use them all because of time limitations.
There are still incomplete or inaccurate Internet sites out there. (See the Inaccurate Site on Supernova Remnants below.)

Despite the wealth of information on the Internet, print sources are still important. The print sources-like an ERIC report from 1976 that gives the history of human observation of supernovae, discusses old theories about supernovae like carbon detonation and asks why the Milky Way does not have more supernovae or a children’s book which asks about the color of a 1987 supernova-contain valuable lessons and questions not in the Internet sites in the same way. There are incomplete/inaccurate print sources too (like one book that talks about a “star in existence since the creation of the universe”), but still part of my point is that a virtual library without some of these print sources would lack important materials. Weeding old material should be done with caution. Also, old data (like the 1976 ERIC document) is still important.

In addition, a search of the Children’s Catalog (1909-2000) yields the lesson that some indexes are not comprehensive. Only two books — one in 1991 and one in 1986 — are cited under the term supernova, while, actually, at least four other books on supernovae were published over that period.

In the book Astronomies and Cultures, it is said that ancient elites used prediction of astronomical events as a display of power and prestige. (C. Ruggles and N.J. Saunders, Astronomies and Cultures, Niwot, Colo, University Press of Colorado, 1993) Besides being helpful teaching tools, children’s resources on supernovae also function in some way as a display of the authority of elders as well.

3. Basic Bibliometrics

Adult articles on supernovae literature (Virgil Diodato’s 1991 article “Supernova 1987A: A Case Study of the Flow of Information in the Literature of Astronomy and Physics” and David Stern’s 1989 article “Supernovae: A Guide to the Literature”) were reviewed. Similar to these articles, some basic bibliometric analysis was attempted.

4. Bibliography of some Resources

4.1. ERIC Documents


Figure 2. The “Year Resources Published” graph shows that 19 of 25 resources were from after 1987. Supernovae 1987A was possibly an important event for this type of literature.


4.2. Books


Davies, Taffy. 1997. The New Star. Nashville, TN, Abingdon Press. (This is the source I mention in the results as having incomplete or inaccurate information.)


4.3. Internet Sites
Davies, Keith. Distribution of Supernova Remnants in the Galaxy. Retrieved 4/20/2002 from http://www.creation.on.ca/cdp/articles/snrart.html. (This is the inaccurate site I refer to in the project summary.)


Figure 4. The “Literature Scatter” graph shows that the Internet is a very significant resource for this type of information. Citation indexes obviously are very important too. Interlibrary loan is important, but less important to someone living in a city with many libraries nearby. Information can be scattered and still retrieved, if one lives in a city with many libraries nearby.


4.4. Adult Articles On Supernovae Literature


4.5. Samples of Journal Article Resources from the ERIC database.


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