

# Analysis Of Note Management Software For Building A Second Brain As A Learning Medium

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## ABSTRACT

An analysis of the Osidian note management software is made, to know how it works in an agile way, and that students can use it without having to use hours of learning to manage it, several external plugins are reviewed and installed in such a way that they can serve to improve the functionality in case they do not come predetermined. Templates are created based on the structure that a student might have with their study habits, making a graphical preview which allows you to follow the connection between notes, tasks and lists to be performed. The system being free and its management of information stored in folders with text files offers the possibility of portability.

**Keywords:** Osidian, graphs, learning, second brain, note management.

## 1. INTRODUCTION

Nowadays information is the basis of knowledge, large volumes of it is stored and dispersed in the network, and in order to use it correctly it must be organized and always available to get the most out of it. That is why when writing news texts, thesis or any report, it is necessary to have the references where the information comes from, there begin to appear indispensable tools as reference managers, such as Zotero, JabRef, Mendeley or other tools (Fenner et al., 2014), which become a day-to-day tool, without it the information can overwhelm the author (García-Puente, 2020). Proper management becomes a critical element if we do not have order and classification, because it would be very difficult to start from scratch to build some information (Kali, 2016), and it serves us to perform systematic reviews and analyze metadata, with it we can find the author who is closer to the reference works (Lorenzetti & Ghali, 2013).

Although reference managers are very useful, they cannot be used as a tool that allows to store information as a learning aid method, which allows to find the right information and thus help other academic benefits. That is where new applications come in, destined, so to speak, to create

a second brain, these applications are known as note managers, and among them Osidian (Castorina, 2022) stands out, which is a knowledge tool that can be extended and works on text files stored in folders. Notion is also representative for its great power of operation (McDonald, 2022), and used for academic searches, all in the same place. These managers keep the information stored with different modules that are added in order to create graphical notes, graphs, maps, references, calendars, repetition space tests where the knowledge learned can be evaluated or simply as a way to find the information at the moment. Roam Research is also another of the most powerful applications for organizing notes, presenting a database in a graphical form (Cunff, 2020). Each of them has its advantages and disadvantages, for example Notion makes the layout more attractive, but it is not possible to compare notes with others, something that can be done with the other two applications. So if the notes, thoughts and information are growing it is better to digitize by means of functional tools like the previous ones (Kontis, 2021).

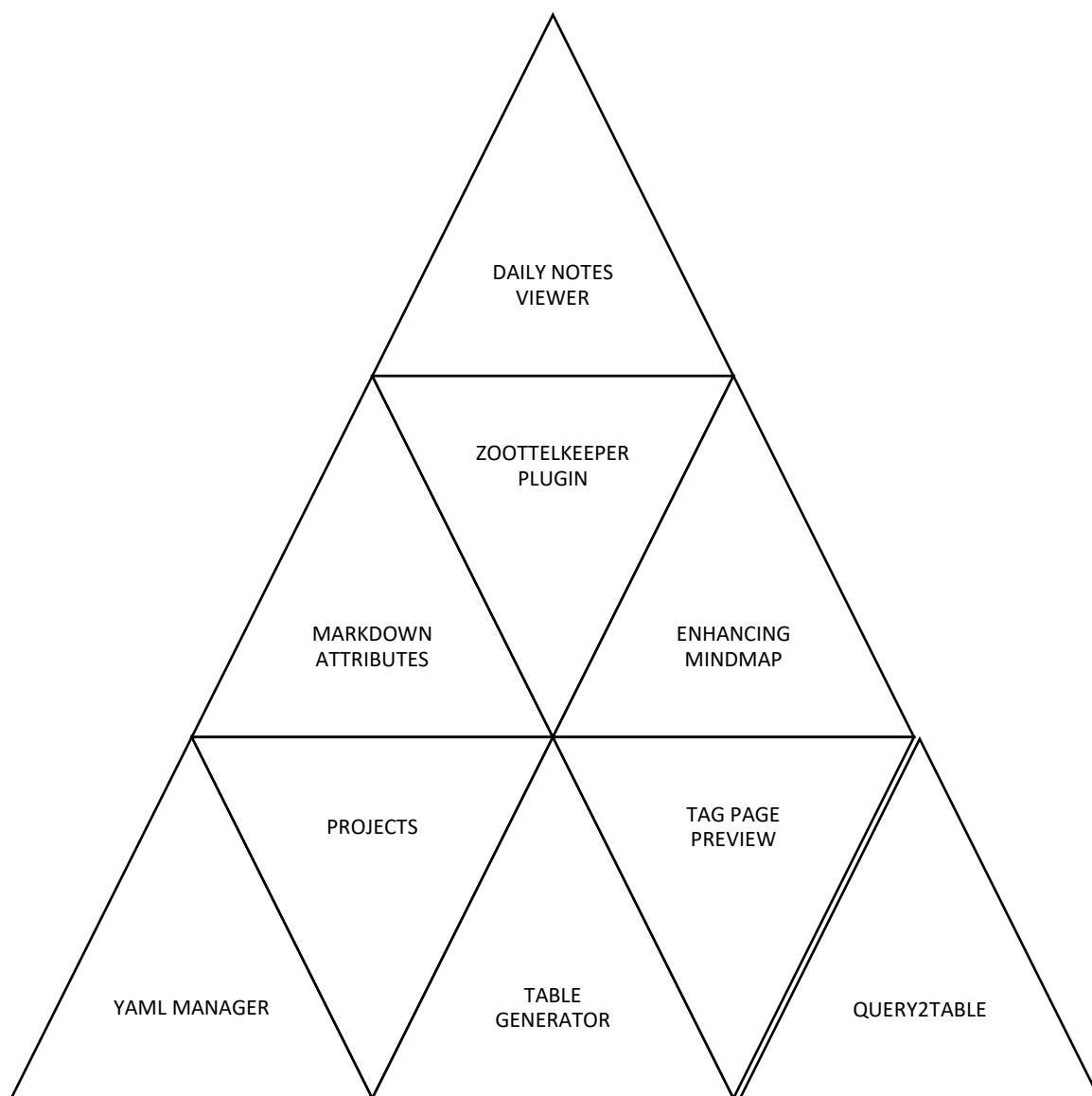
If we talk about learning, it is necessary to have different tools and methodology that allow the student to focus on the right objectives and to be able to measure the learning results at the end. The tools are varied by the use of tics, starting with the use of platforms such as Moodle where the course is created with all the course information (García & Guzmán, 2018; Lázaro, 2010; Llorente, 2007), the advantage is that the information is available at any time, and synchronous or asynchronous classes can be held, regardless of geographical location. Also the platforms for creating formulas and didactic techniques that help the student to maintain attention in classes such as the Kahoot platform, which is being massified in its use by numerous universities, which then performing analysis to see if they help the student (Jones et al., 2019; Wang & Tahir, 2020; Widyaningrum, 2019). And is that a game is a way that is always going to be seen as innovative because it takes out of the theoretical boredom and makes more practical the agendas of each subject, once its benefits are proven it is simpler to apply the tool and methodology different areas in all careers and subjects.

The impact of all ICT tools in education will always generate challenges and perspectives, and was more pronounced due to the COVID-19 pandemic, where all institutions had to adapt in order to take their educational resources out of the classroom (Poveda-Pineda & Medina, 2020; Sandoval, 2020). also presents great challenges, due to the fact that teaching is not always the most appropriate, the interaction between teacher and student is paramount to generate knowledge due to the fact that more concerns and solutions can be generated from them (Hernandez, 2017; Sirvent et al., 2014).

The tools are essential and important to help in constant learning, but by themselves they cannot make a constant improvement if the student does not have order and a study routine that helps him to fix his knowledge, that is why a methodology to be able to acquire knowledge becomes necessary at any stage of learning. So the objective of this research is to present an analysis of Osidian as a free application that will help to maintain an orderly planning of all the topics they see in the subjects, regardless of the area of knowledge, since it can be used equally with small changes, by storing the information will be available at any time, and can be consulted finally as a second brain, according to the Osidian application, which will be the reference for the research.

## 2. METHODOLOGY

A review of the Osidian application, which can be downloaded from its official site (Osidian, 2021), is carried out, and add-ons are analyzed to be installed according to the way of structuring the information for the subject, the community has 727 add-ons and some can be seen in Figure 1. The application can be used by creating a vault for each work plan or subject, and notes and folders can be created, although the order of the folders does not matter because all the information can be connected by means of relationship marks or tags.



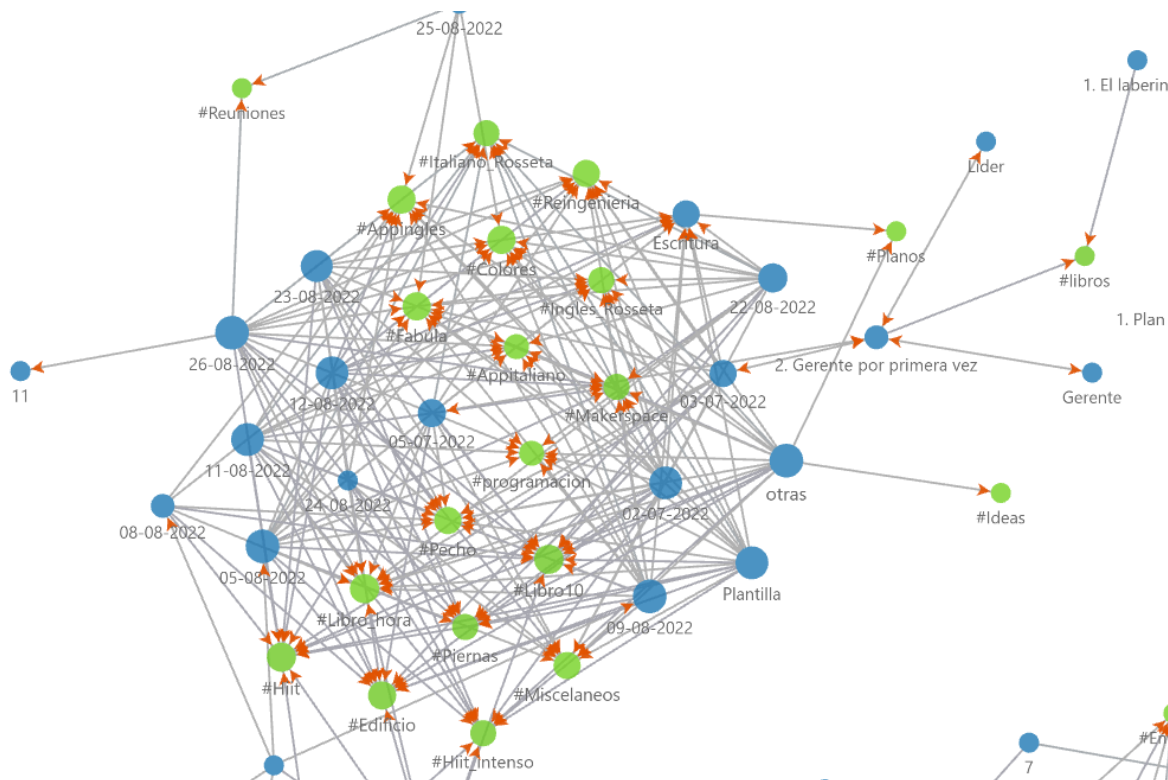
**Figure 1.** Some of the add-ons available.

The external plugins installed are:

- Calendar: which allows you to view the daily notes in the calendar.
- Advanced tables: with which you can create and modify tables, displaying a navigation system.
- Checklist: to control the lists in a single view.

- Dataview: for advanced queries in the vault.
- Day planner: helps to plan the day by schedules.
- DB Folder: to store and retrieve data from a folder.
- Mind map: visualizes notes in such a way that they become mind maps.

Figure 2 shows the final vault in operation, where the relationships between notes can be observed.



**Figure 2.** Vault created.

### 3. RESULTS

In order for the student to have the important information summarized and ordered, the structure is created with the following folders: Definitions, Days notes, Habits, Languages, Research and Books. The functioning, speed of information retrieval and ease of use are analyzed when creating a model in order to review its functionality.

If it is observed that in definitions, the information of books or articles appears compiled, where each one has a note composed by different tags, where the title, author, dates, etc. are specified, in this way any concept will be at hand just by looking for it and it will be summarized with the most important information for the student, which can be used if it uses spaced repetition to fix the knowledge. It is important because the information is compiled from the texts used in class and also books or manuals that help to consolidate the subject matter (Figure 3).

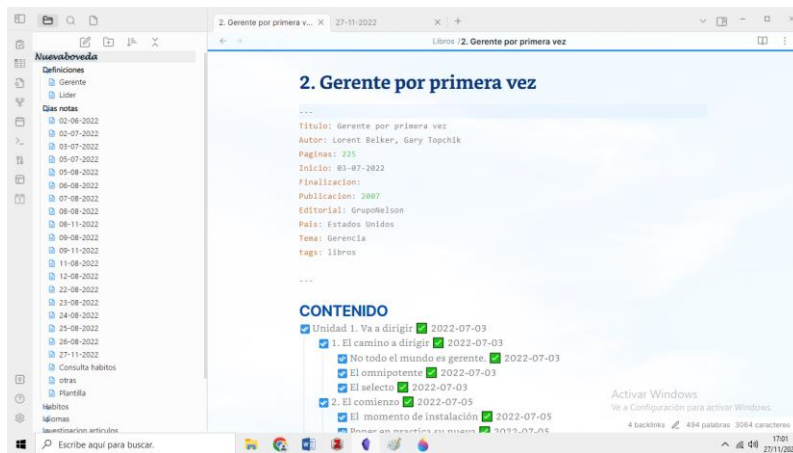


Figure 3. Concepts and summaries of books and articles.

The daily notes reflect the daily routine by tasks that must be developed, from sports exercises, classes and academic meetings (Figure 4), the easiest way to follow each of the list is by means of its graphic form (Figure 5), since due to the amount of connections that are formed it would be more complex to examine it linearly.

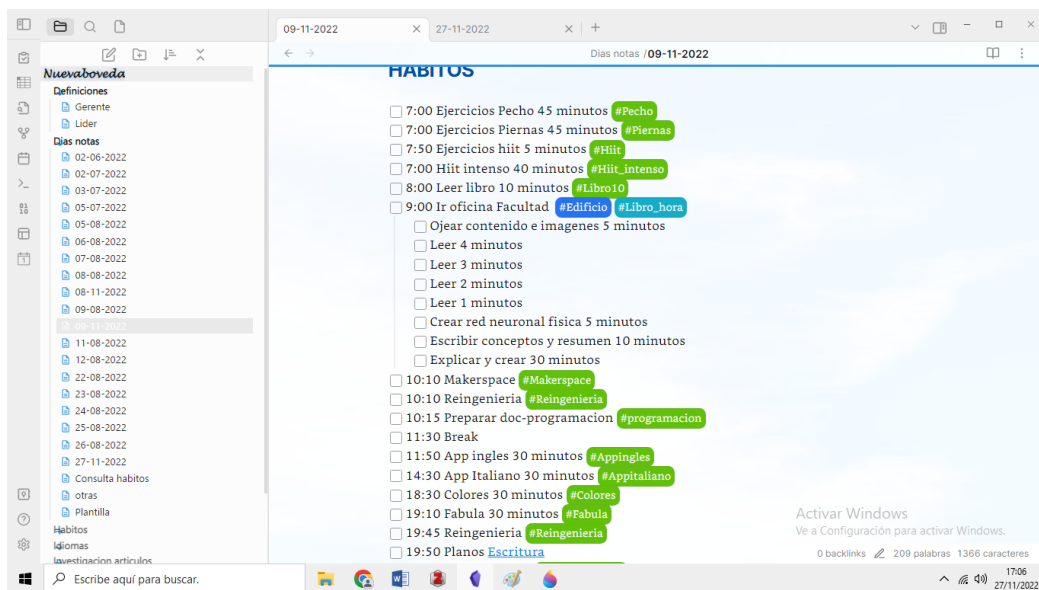
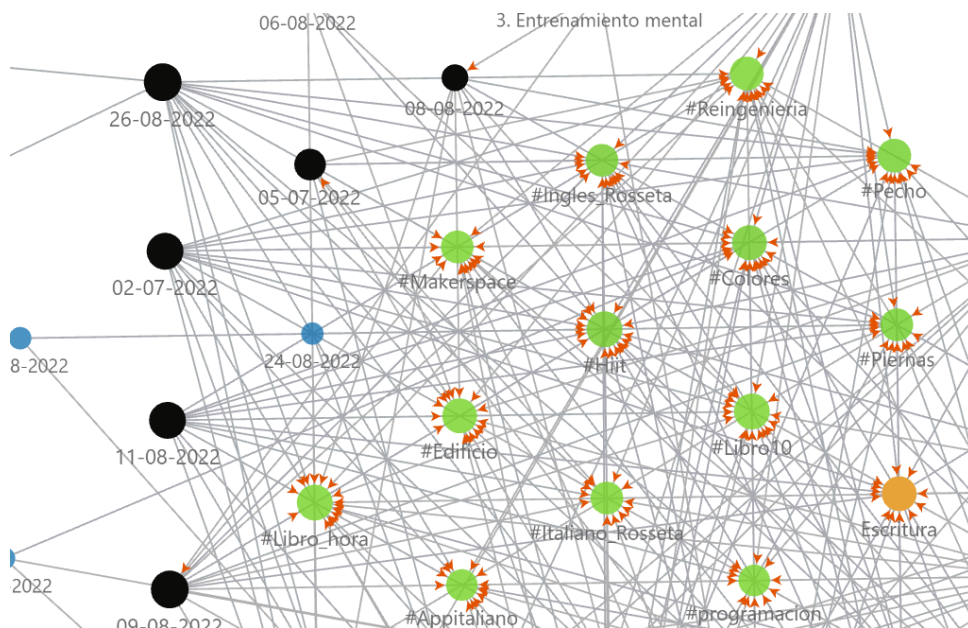
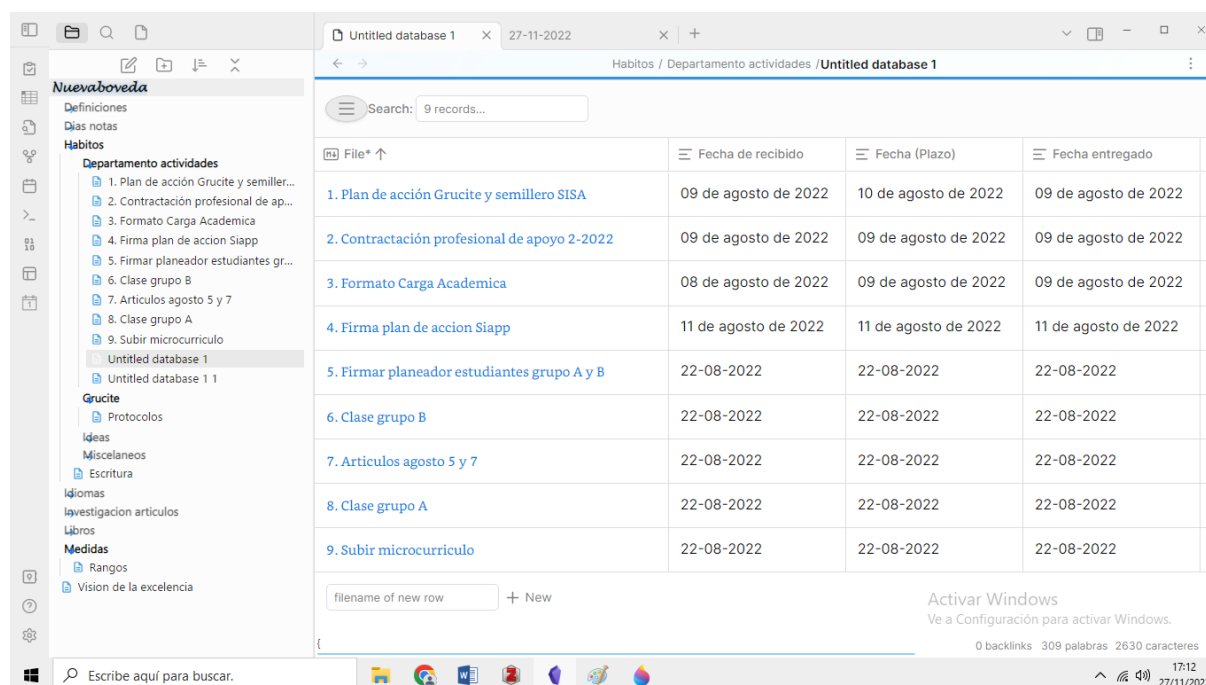


Figure 4. Daily notes.



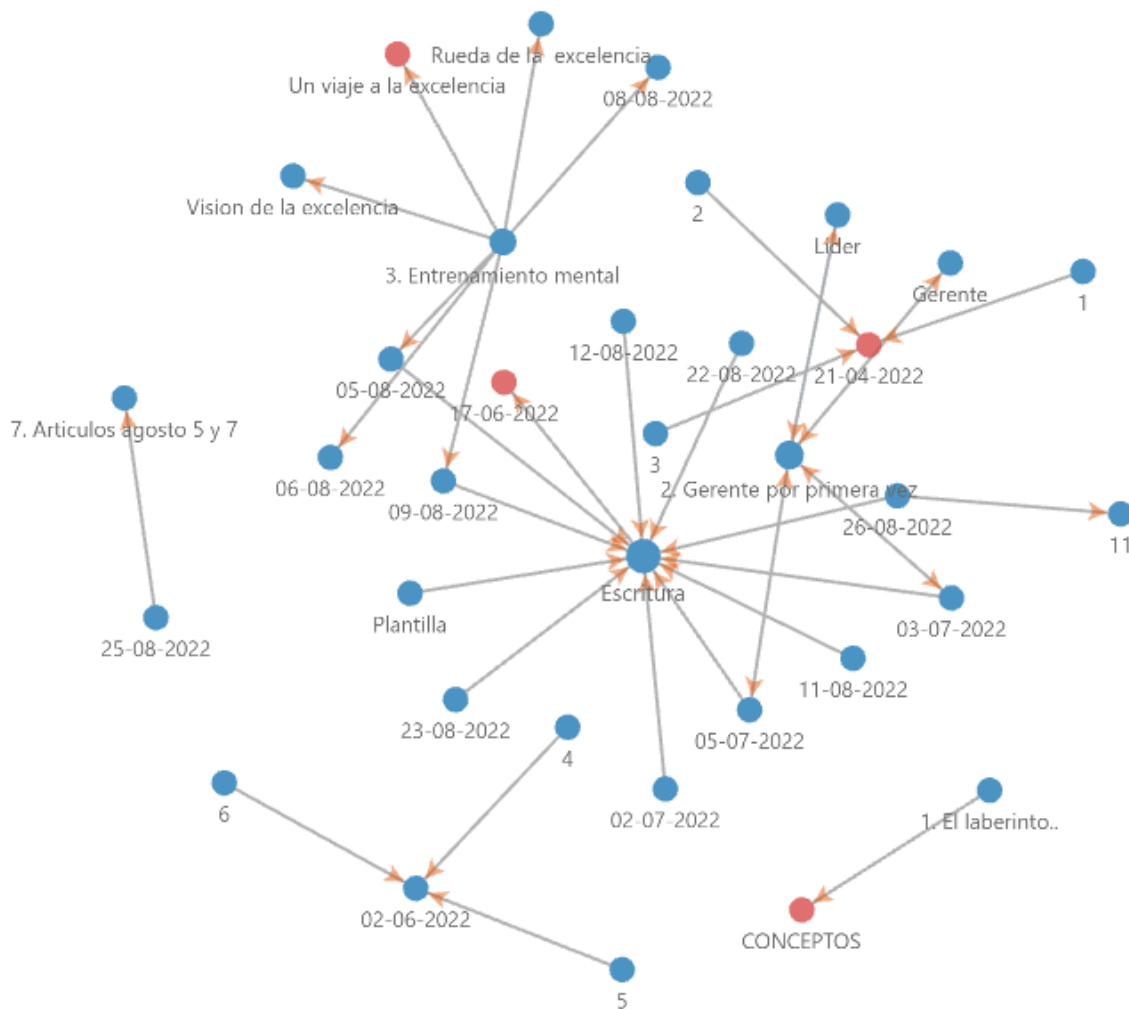
**Figure 5.** Graphical relationship between activities, notes and dates per day.

To maintain a study habit you can use a table where the actions are easy to mark and to observe, because it is faster to change dates and from each action can leave a note with multiple connections, thanks to the plugins is easy by just having to give the title of the habit and the system incorporates it into the table, where the fields or columns have already been created by means of a template (Figure 6).



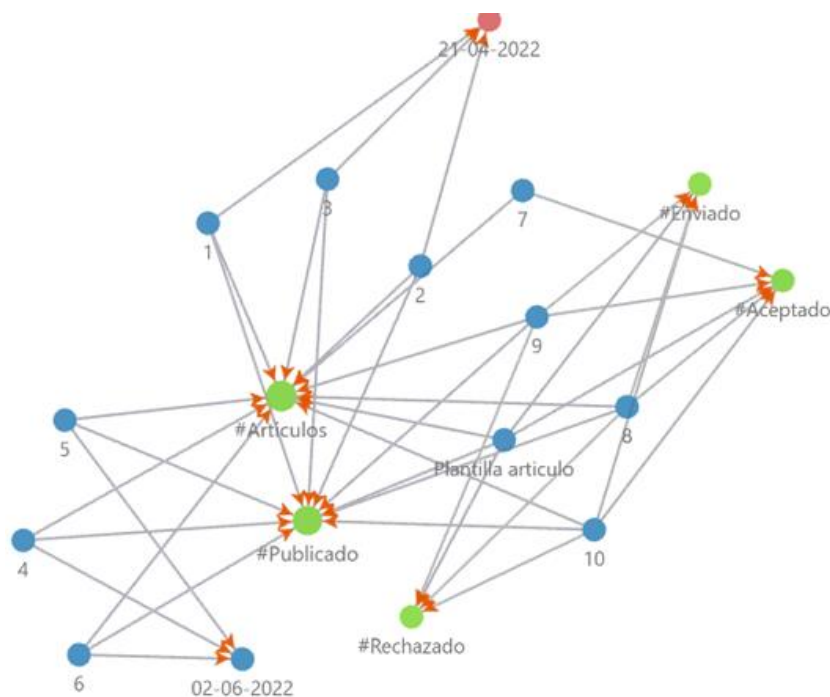
**Figure 6.** Habits by means of the DB Folder plugin.

If we remove the tags, we can observe the relationship of the notes according to the content of each note, where it can be deduced that the focus is based on mental training and writing to corroborate progress (Figure 7).



**Figure 7.** Notes and their task connections.

In Figure 8, you can see the control of submitted jobs, where they have been accepted or need to be checked again. The creation of the vault and all the information notes can be connected in such a way that the information is always available. The way Osidian stores the information is easy to retrieve, because it remains in text form in common folders, so if you don't want a paid plan to update it, you just copy all the information and upload it to another device. One of the great advantages is that you do not even need to organize the information in folders, you only need to relate the topics to each other, so that the system creates all the information and you can visualize it graphically, with a similarity to the neurons of the human brain.



**Figure 8.** List of accepted papers.

#### 4. CONCLUSIONS

The habits of students in their training can help them to acquire knowledge effectively, and if these are strengthened by means of technological tools, they can help to reduce the time for their acquisition. It is true that there are multiple ways and tools used by teachers, but the student can use a note manager as if it were his second brain, because of the ease of handling and the speed with which important information can be retrieved, also its way of making connections that allows to relate the concepts to stop having a broad knowledge of the subject, in this case Obsidian presents characteristics that make it relevant and can be taken into account for use in the daily learning of students in any subject.

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