



Stratégies Numériques pour la Formation Doctorale
en Sciences Humaines et Sociales en Tunisie ■■■

Parcours SOFTS Skills

ERASMUS+ RAQMYAT Parcours Soft Skills

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General view	1
Courses content	2
Block 1: Digital Identity and Online Presence	2
Block 2: Narrative CV Creation and Professional Branding:	2
Block 3: Professional Development and Relationship Building	2
Block 4: Bibliographic Management and Research Organization:	3
Block 5: Scientific Writing Techniques	3
Block 6: Publishing and Impact Strategy	3
Teaching Methodology	4
Course Plan	5



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Learning materials Created for the Erasmus+ Project

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- **Tunisian Universities:** Université de Kairouan; Université de la Manouba; Université de Sfax; Université de Tunis El Manar; Université de Tunis; Université Virtuelle de Tunis
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General view

Digital Identity and Online Presence:

This block focuses on the significance of establishing a strong digital identity for academics and researchers. It covers the creation and maintenance of personal websites, effective use of social networks in a professional context, and the role of video conferencing in academic collaborations. The goal is to enhance one's digital footprint for increased professional visibility and influence.

Narrative CV Creation and Professional Branding:

This unit delves into the art of crafting narrative CVs that effectively communicate one's academic journey and achievements. It emphasizes the development of a unique professional brand, integrating strategic planning, goal setting, and time management skills to position oneself favorably in the academic sphere.

Professional Development and Relationship Building:

This segment focuses on advanced strategies for professional growth and networking. It includes setting realistic career goals, managing time efficiently, and cultivating meaningful academic and professional relationships. The aim is to equip researchers with skills for a successful transition into postdoctoral and other advanced academic roles.

Bibliographic Management and Research Organization:

This block emphasizes the importance of efficient bibliographic management, primarily using Zotero. It provides an in-depth understanding of Zotero's features, its organizational capabilities, and its role in enhancing research efficiency. Comparisons with other reference management tools are also covered, offering a broad perspective on knowledge management.

Scientific Writing Techniques: This unit is dedicated to the nuances of scientific writing. It guides researchers through the process of crafting impactful scientific papers, focusing on effective communication strategies and the essentials of academic writing. The goal is to enhance the clarity and impact of scientific publications.

Publishing and Impact Strategy: The final block explores strategies for publishing in high-impact journals. It covers the selection of appropriate journals, adherence to publication standards, and techniques for increasing the visibility and impact of one's research. This unit is vital for researchers aiming to navigate the complex landscape of scientific publishing successfully.

Courses content

Block 1: Digital Identity and Online Presence

This block focuses on the critical role of digital identity for scientists and academics. It emphasizes the importance of personal websites in establishing a professional online presence. The module also delves into the utilization of social networks and adherence to scientific codes of conduct, highlighting how these platforms can be leveraged for effective communication and dissemination of research findings. Understanding and managing one's digital footprint in the academic world is key to building a reputable and influential professional identity.

- **Personal Websites**
- **Social Networks and Scientific Codes**
- **Using videoconference in academics context**

Block 2: Narrative CV Creation and Professional Branding

"Narrative CV Creation and Professional Branding": This module is designed to guide participants in crafting effective narrative CVs, which go beyond traditional formats to tell a compelling story of their academic and professional journey. It focuses on developing a distinctive personal brand, integrating elements like strategic planning and goal setting. The course also delves into enhancing time management skills, crucial for maintaining a successful academic career. The overarching aim is to position oneself favorably and uniquely in the competitive academic landscape.

- **Narrative CV Generation in the Context of COARA**
- **Integral Professional Development: Planification, goals and Time Management**

Block 3: Professional Development and Relationship Building

This segment of the course offers in-depth strategies for professional growth and networking in academia, tailored to equip researchers with the skills necessary for a successful transition into advanced academic roles. It emphasizes the importance of setting realistic career goals that resonate with personal and professional aspirations, developing effective networking techniques to establish and maintain valuable relationships within the academic community, and preparing meticulously for postdoctoral positions and other senior academic roles. The focus is on fostering a well-rounded professional profile through strategic planning and community engagement.

- **Realistic Career Goal Setting**
- **Effective Networking**
- **Transitioning into Advanced Roles**

Block 4: Bibliographic Management and Research Organization

In this block, the focus is on the management of bibliographic information using Zotero and other reference management software. Participants will learn about the fundamental features of Zotero, including its utility in organizing and citing research materials. The module also compares Zotero with other reference and annotation software, providing a broader perspective on the tools available for effective knowledge management. This block is designed to equip researchers and academics with the skills to efficiently manage their bibliographic databases.

- **Bibliographic Management Software**
- **Using Zotero**
- **Other Reference and Annotation Software**

Block 5: Scientific Writing Techniques

This unit delves into the art of scientific writing, aimed at honing the skills of researchers in crafting impactful scientific papers. It emphasizes effective communication strategies and the fundamentals of academic writing, with a focus on enhancing the clarity and overall impact of scientific publications. The course is structured to guide participants through the intricate process of articulating complex scientific ideas in a clear and persuasive manner, ensuring their research is presented in a way that maximizes its reach and influence in the scientific community.

- **Structure of academic texts**
- **Fundamentals of Academic Writing**
- **Effective Communication of Complex Ideas**

Block 6: Publishing and Impact Strategy

"Publishing and Impact Strategy" is the final, comprehensive block of the course, focusing on strategies for successfully publishing research in high-impact journals. This unit offers a deep dive into the selection process for suitable journals, ensuring alignment with research topics and target audiences. It also covers adherence to rigorous publication standards and the nuances of the peer-review process. Crucially, the unit provides techniques for enhancing the visibility and impact of research papers, such as effective use of digital platforms and academic networks. This module is essential for researchers seeking to navigate the intricate and competitive landscape of scientific publishing, aiming to maximize the dissemination and influence of their work.

- **Journal Selection Strategies**
- **Adherence to Publication Standards**
- **Enhancing Research Visibility and Impact**

Teaching Methodology

Teaching Methodology Overview: A Multifaceted Approach to Scholarly Development

In designing this comprehensive course, a thoughtful teaching methodology has been curated to cater to the diverse needs of participants. The course is divided into four blocks, each employing distinct instructional techniques tailored to optimize learning outcomes.

Video Lectures:

- Expertly crafted video lectures providing in-depth insights into digital identity, professional development, and insider perspectives on academia.
- Visual aids and real-world examples to enhance understanding and retention.

Interactive Content:

- Engaging multimedia elements integrated into videos to stimulate participant interaction.
- Opportunities for reflection and self-assessment embedded within video segments.

Directed Activities:

- Structured exercises designed to apply knowledge
- Practical tasks related to knowledge management, bibliographic databases, and scientific writing.

Recommended Readings:

- Curated readings to supplement and expand upon video-based content.
- Access to additional resources for participants seeking a deeper understanding.

Completion of Exercises:

- Practical assignments to reinforce theoretical concepts.
- Application-oriented exercises to enhance practical skills in areas like narrative CV generation and Zotero usage.

This multifaceted teaching methodology aims to accommodate diverse learning preferences, providing a well-rounded educational experience that blends theoretical knowledge with practical application. The combination of video-based learning and active engagement ensures participants not only grasp the foundational concepts but also develop the skills necessary for success in their academic and research pursuits.

Course Plan

Duration: Two Months (January and February)

DaniWences NicoAlberto

- Course Plan for Six Blocks
Duration: Two Months (January and February)
- Week 1: Introduction and **Block 1** (Digital Identity and Online Presence)
Delivery: Video Lectures and Interactive Activities
Focus on creating personal websites, using social networks, and video conferencing.
- Week 2-3: **Block 2** (Narrative CV Creation and Professional Branding)
Delivery: Interactive Workshops and Guided Exercises
Emphasis on narrative CVs, professional branding, and strategic planning.
- Week 4: **Block 3** (Professional Development and Relationship Building)
Delivery: Webinars and Networking Sessions
Covers realistic career goal setting and effective networking strategies.
- Week 5: **Block 4** (Bibliographic Management and Research Organization)
Delivery: Tutorials and Hands-on Sessions
Focus on Zotero and other bibliographic management tools.
- Week 6-7: **Block 5** (Scientific Writing Techniques)
Delivery: Writing Workshops and Peer Review Exercises
Concentrates on academic writing structure, fundamentals, and communication of ideas.
- Week 8: **Block 6** (Publishing and Impact Strategy)
Delivery: Panel Discussions and Strategy Sessions
Discusses journal selection, publication standards, and enhancing research impact.
- Week 9-10: Evaluation and Final Discussion
Delivery: Final Assessment and Reflective Forums
Comprehensive test and discussions to consolidate learning from all blocks.

Submissions for Six-Block Course:

- Interactive Activities (Week 1-3): Engagement in activities for Blocks 1, 2, and 3, focusing on digital identity, CV creation, and professional development.
- Practical Exercises (Week 4-7): Completion of exercises related to Blocks 4 and 5, covering bibliographic management and scientific writing techniques.
- Strategy Plan (Week 8): Developing a publishing and impact strategy as part of Block 6.
- Final Test (Week 9): A comprehensive test assessing knowledge from all six blocks.
- Discussion Forum (Week 10): Participation in discussions to reflect on the course and share insights.



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Block 1:

Digital Identity and Online Presence



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This block focuses on the critical role of digital identity for scientists and academics. It emphasizes the importance of personal websites in establishing a professional online presence. The module also delves into the utilization of social networks and adherence to scientific codes of conduct, highlighting how these platforms can be leveraged for effective communication and dissemination of research findings. Understanding and managing one's digital footprint in the academic world is key to building a reputable and influential professional identity.

Characteristics:

- ORCID
- Google Sites
- Social media

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Index

Index	1
Introduction	2
Bibliographic software	2
Learning ORCID	5
What is ORCID?	5
Principal fields in ORCID	6
Recommendations for utilizing ORCID	6
Materials	7
Complementary tools related to ORCID	7
Learning Google Sites	9
What is Google Sites?	9
Principal data to include on your Google Sites	10
Recommendations for utilizing Google Sites	10
Materials	11
Complementary tools related to Google Sites	11
Learning social media for dissemination	12
Why social media?	12
The importance of using identifiers	13
Recommendations for leveraging social media	13
Materials	14



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Introduction

Bibliographic software

In the dynamic expanse of the academic world today, the journey of research dissemination extends far beyond the traditional venues of scholarly journals and academic conferences. It necessitates the establishment of a robust web presence, incorporating not just personal or institutional websites but also leveraging dedicated academic platforms such as ORCID, scholarly social networks, and the increasingly vital role of video conferencing platforms. These platforms serve as essential tools in bridging the gap between researchers and a global audience, facilitating the seamless sharing of research findings, academic achievements, and scholarly communications. ORCID, for instance, offers a unique identifier that distinguishes individual researchers and connects them to their contributions and affiliations, ensuring their work is recognized in the vast ocean of academic outputs. Similarly, academic social networks provide a forum for scholars to disseminate their research, engage in discussions, and foster collaborations within their community. Moreover, video conferencing platforms like Zoom or WebEx have become crucial in the current digital age, enabling academics to present their work, participate in virtual conferences, and maintain a collaborative and communicative presence with peers worldwide. This enriched web presence ensures that research does not exist in isolation but reaches its fullest potential audience, amplifying its impact and the researcher's professional visibility in their field.


Understanding the distinction between digital identity and online presence is crucial for academics aiming to navigate the digital sphere effectively. Digital identity encapsulates the persona an individual crafts and projects online, marked by their expertise, professional milestones, and scholarly contributions. It is essentially the narrative that emerges from one's interactions and content across the digital landscape. Conversely, online presence pertains to the strategic selection and use of platforms for broadcasting and engaging with this digital identity. It is not just about having a profile on every possible platform but choosing those that align with one's academic and professional goals. Academic social networks, digital portfolio platforms like ORCID, and video conferencing platforms play a pivotal role in this realm. They not only act as repositories for one's work but also as nodes in a larger network of scholarly communication, facilitating connections, collaborations, and the exchange of ideas within the academic community. The inclusion of video conferencing platforms underlines the modern imperative for virtual communication skills, showcasing the value of being able to present and discuss one's work effectively in digital forums. Navigating this distinction effectively enables researchers to maximise their visibility, impact, and the opportunities that arise from a well-cultivated digital presence.

The essential elements for effective research dissemination and digital identity establishment include scientific identity management, active dissemination, sustained digital presence, and amplified virtual interaction. Scientific identity management ensures a researcher's outputs are correctly linked to their professional profile for easy access and recognition. Active dissemination uses the dynamics of social media to expand research findings' reach and foster engagement. A sustained digital presence is achieved through a dedicated website, acting as a central point for all information related to a researcher's work, enhancing both accessibility and visibility. Amplified virtual interaction capitalizes on the extensive reach provided by video technology and online conferences, offering opportunities for presenting research to a global audience and facilitating international collaboration. These elements form a coherent strategy to enhance the visibility and impact of research in the digital domain.

<p>ID SCIENTIFIC IDENTITY MANAGEMENT ID</p> <p>Refers to the action of updating and optimizing profiles on scientific identification platforms like ORCID, ensuring all your publications and contributions are accessible and correctly linked to your personal profile. This enhances visibility and recognition within the scientific community</p> <p>Tool RESEARCH PORTFOLIOS</p>	<p>ACTIVE DISSEMINATION</p> <p>Involves strategic use of social networks to promote and share research findings, interact with the scientific community and the general public, and increase the reach and impact of your findings. Active dissemination is characterized by two-way communication, encouraging participation and discussion.</p> <p>Tool SOCIAL NETWORKS</p>
<p>SUSTAINED DIGITAL PRESENCE</p> <p>Developing and maintaining a personal or research project website, where all relevant information about your work, publications, ongoing projects, and collaborations is organized. This sustained digital presence serves as a constant reference point for your scientific identity on the web.</p> <p>Tool PERSONAL WEBSITE</p>	<p>AMPLIFIED VIRTUAL INTERACTION</p> <p>Encompasses organizing and participating in virtual conferences, seminars, and meetings using video call technologies to expand your network, foster remote collaboration, and present research to a global audience without geographical limitations.</p> <p>Tool VIDEO CONFERENCES</p>

To execute an effective online presence strategy in academia, it is essential to utilize a combination of platforms: digital portfolios, personal websites, academic social networks, and video conferencing platforms. Each offers distinct advantages for promoting an academic's research and digital identity, as well as enhancing their communication skills in virtual settings.

- **Research portfolios** (e.g., [ORCID](#) 🌐): Digital portfolios are essential for academics aiming to consolidate their professional identity and contributions in one accessible location. Platforms like ORCID serve as a centralized hub where researchers can obtain a unique identifier that links to their published work, grants, and affiliations. This not only facilitates the process of distinguishing an individual's contributions from those of others with similar names but also ensures that their work is correctly attributed, enhancing visibility and impact. ORCID stands as a cornerstone for academic profiling, providing a transparent, persistent, and universally recognized digital identity that supports the seamless connection and sharing of professional information across platforms, databases, and institutions.
- **Social Networks** (e.g., [ResearchGate](#) 🌐): Academic social networks are specialized platforms that foster collaboration, networking, and sharing among researchers. Sites like ResearchGate provide a community-oriented space where academics can upload their publications, participate in forums, and engage with the work of others. These networks enhance the visibility of research by facilitating discussions, providing feedback, and enabling connections with peers across the globe. Furthermore, they offer metrics and analytics, giving researchers insights into the reach and impact of their work. Academic social networks play a crucial role in the modern dissemination of knowledge, breaking down barriers to access and promoting a more inclusive and interconnected academic community.

- **Personal academic websites** (e.g., WordPress or [Google Sites](#) 

4

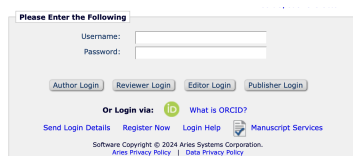


Learning ORCID

What is ORCID?

ORCID offers a unique identifier to each researcher, thus solving the common problem of name ambiguity and ensuring that all scholarly work is accurately attributed. ORCID's value to digital identity and presence cannot be overstated; it acts as a digital CV that is publicly accessible, linking a researcher's various outputs across a plethora of platforms and databases. By doing so, it amplifies the visibility of academic contributions, facilitating easier collaboration and discovery among peers.

↓ We can highlight the following key features ↓



Unique digital identifier

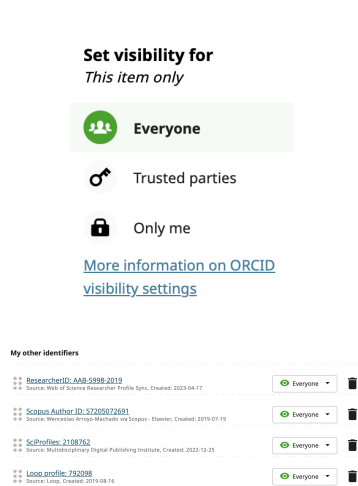
- Each ORCID iD is a unique code that distinguishes you from other researchers, eliminating confusion over similar names.
- This identifier is persistent, accompanying your academic journey indefinitely.

Integration with scholarly platforms

- ORCID can be integrated with numerous research systems (publishing, funding, institutions), ensuring your work is connected and recognizable across various platforms.
- This integration streamlines processes such as manuscript submissions and grant applications.

Comprehensive record of academic contributions

- Each ORCID iD is a unique code that distinguishes you from other researchers, eliminating confusion over similar names.
- This identifier is persistent, accompanying your academic journey indefinitely.



Control over privacy settings

- You have control over what information is publicly displayed, shared with trusted organizations, or kept private.
- This flexibility respects your privacy preferences while still facilitating academic transparency.

Interoperability

- The system's design for interoperability means that your ORCID record can work seamlessly with other systems, reducing redundant data entry and keeping your information current.
- It aids in automating the update of your academic outputs across platforms where your ORCID iD is linked.

Principal fields in ORCID

- **Name(s)**: Your official name and any variations thereof. This ensures that all your work is attributed to you, even if published under different names.
- **Biography**: A brief overview of your academic and research background. This section helps to contextualize your work and interests for those viewing your profile.
- **Links to websites and social media profiles**: URLs to your personal academic website, blog, or social media profiles. These links provide a gateway to your broader online presence, allowing others to explore your work in depth.
- **Keywords**: Terms that represent your research interests and areas of expertise. Keywords make your ORCID profile more discoverable to others in your field.
- **Countries**: The countries associated with your academic and professional experiences. This information highlights the geographical scope of your research impact.
- **Employment**: Details of your current and past positions, including the organization, title, and dates. This chronicles your professional journey within academia or industry.
- **Education**: Your academic degrees and any other formal education or qualifications, specifying the institution, field of study, and graduation dates. This section underlines your academic credentials.
- **Funding**: Information about your research grants, scholarships, or other forms of financial support. Listing your funding sources demonstrates the financial backing and trust in your research activities.

Recommendations for utilizing ORCID

- **Use ORCID as your central profile** 🌟: By centralizing your digital academic identity around your ORCID profile, you ensure a single, authoritative source for your professional information.

- **Prioritize curating your ORCID profile** 🖱️: Keep your profile up-to-date with the latest information to accurately reflect your current academic status and achievements.
- **Access journals and repositories via ORCID** 🔗: Utilize your ORCID ID to streamline processes across publishing and data repositories, enhancing efficiency and ensuring your work is correctly attributed.
- **Automate data import and updating, but use apps sparingly** 🔄: Take advantage of ORCID's integration capabilities to automatically update your profile, but be selective in the applications you connect to maintain accuracy.
- **Periodically review your data** 👤: Regularly checking your ORCID profile ensures it remains an accurate and comprehensive reflection of your academic journey, bolstering your digital presence and discoverability.

Materials



▶ How to Set Up an ORCID ID

Description: ORCID is a unique identity for a researcher that is required by some journals and funding agencies. In this video, I show how to register and fill out an ORCID profile.



▶ Make your Professional Research Profile Websi...

Description: Make your professional research profile on google sites for free. Avail this and make exciting websites to impress your future employers or Supervisors.

Complementary tools related to ORCID

ORCID serves as a foundational tool in this endeavour, providing a unique identifier that ensures researchers' work is accurately recognized and attributed. However, ORCID does not operate in isolation. A suite of complementary tools enhances its utility, making research more discoverable, simplifying the management of academic profiles, and fostering collaboration among scholars. These tools, ranging from bibliographic databases to social networks for scientists, work in synergy with ORCID to create a comprehensive digital footprint for academics. By integrating ORCID with these platforms, researchers can amplify the visibility of their contributions, maintain consistency across different repositories, and streamline the publication and citation process. The following list introduces some of these key tools and their relationship with ORCID, highlighting how they collectively contribute to a robust online presence for scholars worldwide.

- **Google Scholar:** A freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. Integration with Google Scholar allows academics to easily link their ORCID iD with their Google Scholar profile, enhancing the visibility of their work.
- **Scopus Author Identifier:** An automatic identifier assigned by Scopus to authors in its database, which helps distinguish between publications from authors with similar names. Linking Scopus with ORCID ensures that your scholarly output is accurately captured and attributed.
- **Mendeley:** A reference manager and academic social network that enables researchers to organize their research, collaborate with others online, and discover the latest research. Connecting ORCID with Mendeley helps in keeping publication records up to date automatically and facilitates citation management.

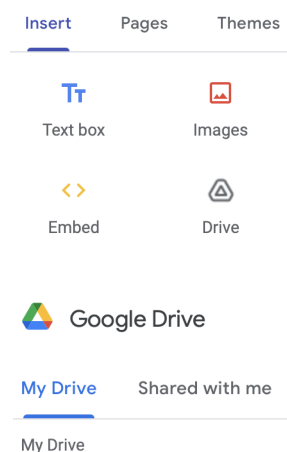


Learning Google Sites

What is Google Sites?

In the contemporary scholarly ecosystem, establishing a digital identity and maintaining a visible online presence are indispensable for academics. Google Sites emerges as a potent tool in this regard, offering a user-friendly platform for creating personal academic websites. Its accessibility and integration with Google's suite of tools make it an excellent choice for scholars looking to showcase their professional journey, achievements, and research outputs. A well-crafted site on Google Sites can serve as a central hub for one's academic persona, bridging the gap between complex digital repositories and a more personalised narrative of one's scholarly work.

↓ We can highlight the following key features ↓

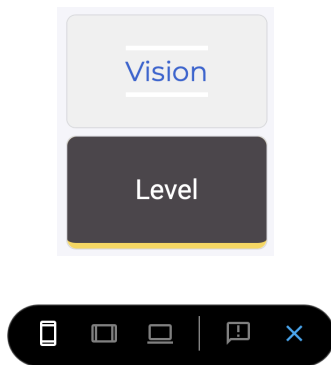


Intuitive drag-and-drop interface



- Google Sites features a straightforward drag-and-drop interface that requires no prior coding knowledge, allowing academics to focus on content rather than web design complexities.
- This ease of use facilitates the quick creation and updating of a professional-looking academic website.

Seamless Google Suite integration

- Direct integration with Google Drive, Docs, Calendar, and more enables the easy embedding of documents, presentations, and schedules on your site.
- This feature ensures that your academic outputs and professional activities are effortlessly showcased and accessible.



General access

-  Draft **Restricted** ▾
Only people with access can open with the link
-  Published site **Restricted** ▾
Only people with access can open with the link

Customizable templates

- A selection of customizable templates allows for the rapid development of a site that aligns with your academic and professional image.
- Tailoring these templates to suit your needs can help create a unique and visually appealing online presence.

Responsive design

- Websites created with Google Sites are automatically optimized for viewing across a range of devices, including desktops, tablets, and smartphones.
- This responsiveness ensures that your site is accessible and user-friendly, regardless of how your audience accesses it.





Access control

- Google Sites provides control over who can view or edit your site, allowing for both public and private web spaces.
- This flexibility is valuable for sharing content with select audiences, such as students or collaborators, while maintaining public sections for broader visibility..

Principal data to include on your Google Sites

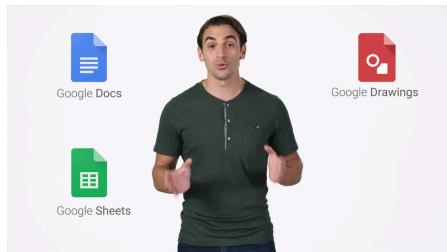
- **Name:** Your professional name, as it should appear in academic contexts.
- **Biography:** A brief overview of your academic background, research interests, and achievements.
- **Links to websites and social media profiles:** Direct visitors to your broader online presence and professional profiles.
- **Affiliation:** Your current academic institution or research organization affiliation.
- **Academic works and projects:** Highlight your publications, presentations, ongoing research projects, and any collaborative endeavours.
- **Contact information:** Provide a way for visitors to reach you, whether through email, contact form, or social media channels.

Recommendations for utilizing Google Sites

- **Avoid complexity** : Focus on simplicity in design and content to ensure your site is easy to navigate and maintain.
- **Use stable content** : Incorporate elements that require minimal updates, such as linking to your Google Scholar profile for publications, to reduce the need for frequent revisions.
- **Ensure everything is up-to-date** : Regularly review your site to ensure all information is current and accurate, reflecting your latest academic pursuits and achievements.
- **Integrate with other platforms** : Utilize links and integrations with other academic platforms to showcase a comprehensive view of your professional activities without needing to duplicate information across sites.

- **Optimise for search engines** 🔍: Make use of keywords related to your research areas in your site's content to improve visibility in search engine results, helping peers and potential collaborators find your work more easily.

Materials



Introduction to Google Sites

Description: In this activity, you will use Google Sites to design an interactive website to share information about your event. Your website will integrate materials you created in other applications into one location.



Make your Professional Research Profile Websi...

Description: Make your professional research profile on google sites for free. Avail this and make exciting websites to impress your future employers or Supervisors.

Complementary tools related to Google Sites

Google Sites offers a seamless and integrated approach to building personal or academic websites, yet it's part of a broader ecosystem of tools that can enhance and complement your digital footprint. These tools, when used in conjunction with Google Sites and the broader Google Suite, can significantly augment your ability to communicate, collaborate, and share your academic work. Below is a list of complementary tools that synergize well with Google Suites, each offering unique features to elevate your online presence.

- **WordPress:** The world's most popular website creation tool, offering versatility through thousands of themes and plugins. Ideal for academics who want advanced customization and complete control over their online presence. WordPress is particularly useful for those looking to incorporate blogs or news sections into their sites.
- **Wix:** A cloud-based web design platform that enables users to create HTML5 websites and mobile sites through a simple drag-and-drop interface. Wix is perfect for academics with no coding knowledge but who seek a more personalized and creative design for their site.
- **Squarespace:** Known for its sleek templates and intuitive interface, Squarespace is a solid choice for those in the academic field wishing to combine simplicity with professional design. It offers robust tools for creating portfolios, blogs, and project pages.

SOCIAL MEDIA

Learning social media for dissemination

Why social media?

Social media platforms, ranging from X (Twitter) to ResearchGate, play a pivotal role in this evolution, offering academics innovative ways to share their work, engage with broader audiences, and foster scholarly dialogue. The ability to rapidly disseminate research findings, receive feedback, and connect with like-minded scholars around the globe underscores the transformative potential of social media in academia.

↓ We can highlight the following key features ↓



Broad reach and accessibility

- Social media platforms have a global reach, enabling researchers to share their findings with an international audience quickly.
- This accessibility breaks down barriers to information dissemination, increasing the potential impact of research.

Enhanced scholarly networking

- Platforms like LinkedIn and ResearchGate facilitate connections with other researchers, fostering collaborations and discussions that can enrich one's work.
- Networking on these platforms can lead to opportunities for joint research projects, conferences, and publications.

Immediate feedback and engagement

- Social media allows for real-time feedback on research findings from peers and the public, offering valuable insights and perspectives.
- Engaging with an audience through comments and discussions can further refine research questions and methodologies.

Increased visibility and impact

- Sharing research on social media can enhance a researcher's visibility within their field, contributing to greater citation rates and academic impact.
- Platforms like Twitter can amplify the reach of publications, making them more accessible to a non-academic audience.



Multimedia content sharing

- The ability to share a variety of content types, including images, videos, and infographics, helps in presenting complex research in an accessible and engaging manner.
- Multimedia content can make research findings more understandable and appealing to a broader audience.

The importance of using identifiers

Utilising unique identifiers, such as Digital Object Identifiers (DOI) and Research Organization Registry (ROR), is crucial in the digital dissemination of research. DOIs provide a permanent link to publications, ensuring that research is easily accessible and citable over time. Similarly, ROR IDs help accurately associate researchers with their institutions, enhancing the credibility and traceability of their work. Employing these identifiers in social media posts and profiles ensures that research is discoverable, attributable, and integrated within the scholarly ecosystem.

Recommendations for leveraging social media

- **Optimize for Each Platform** 🛠️: Understand the unique strengths and audience of each platform to tailor your content accordingly. For example, use engaging visuals and stories on Instagram for broader reach, concise and impactful messages on Twitter, and detailed professional achievements and articles on LinkedIn.
- **Leverage multimedia content** 📺: Incorporate a mix of content types, such as videos, infographics, and podcasts, to convey complex research findings in an accessible and engaging manner. This variety can help capture the attention of different segments of your audience across platforms.
- **Engage with the community** 💬: Make it a two-way conversation by actively engaging with your followers and peers. Respond to comments, participate in discussions, and collaborate with other researchers or institutions for live Q&A sessions or discussions, enhancing the interactive aspect of your dissemination efforts.
- **Utilize hashtags and keywords** 🔍: Boost the visibility of your posts by incorporating relevant hashtags and keywords. This strategy helps in reaching beyond your current followers to a broader audience interested in your research area, especially on platforms like Twitter and Instagram.
- **Schedule and consistency** 📅: Maintain a regular posting schedule to keep your audience engaged and informed. Utilize scheduling tools available within the platforms or third-party apps to plan your posts in advance. Consistency in your online presence helps build a loyal following and keeps your work in the public eye.

	AUDIENCE	LIMITATIONS	NOTABLE FEATURE	INTERACTION TYPE
<i>Twitter</i>	Social/Academic	Character limit (140 characters)	Hashtags for wide visibility	Tweets, Retweets, Replies
<i>LinkedIn</i>	Professional	Less focus on academic content	Professional networking	Posts, Messages, Comments
<i>ResearchGate</i>	Academic	Limited public engagement	Direct access to research papers	Q&A, Full-text Requests
<i>Academia.edu</i>	Academic	Subscription for full features	Large repository of papers	Follows, Downloads
<i>Instagram</i>	Social	Visual content focus	High engagement through visuals	Posts, Stories, Comments

Materials



How to Set Up an ORCID ID

Description: ORCID is a unique identity for a researcher that is required by some journals and funding agencies. In this video, I show how to register and fill out an ORCID profile.



Make your Professional Research Profile Websi...

Description: Make your professional research profile on google sites for free. Avail this and make exciting websites to impress your future employers or Supervisors.



رقميات RAQMİYAT

Stratégies Numériques pour la Formation Doctorale
en Sciences Humaines et Sociales en Tunisie

Block 2:

Narrative CV creation and professional planning



UNIVERSIDAD
DE GRANADA



Erasmus+

This module is designed to guide participants in crafting effective narrative CVs, which go beyond traditional formats to tell a compelling story of their academic and professional journey. It focuses on developing a distinctive personal brand, integrating elements like strategic planning and goal setting. The course also delves into enhancing time management skills, crucial for maintaining a successful academic career. The overarching aim is to position oneself favorably and uniquely in the competitive academic landscape.

Characteristics:

- Narrative CV Generation in the Context of COARA
- Integral Professional Development: Planification, goals and Time Management
- Delivery: Interactive Workshops and Guided Exercises
- Emphasis on narrative CVs, professional branding, and strategic planning.

Daniel Torres salinas
Universidad de Granada

Index

	1
Narrative CVs	2
DORA and CoARA	2
Narrative CVS	3
Narrative Bibliometrics	5
Bibliometric Indicators	7
Narrative Examples	8
Professional planning	10
Introduction	10
Objective-based Planning: variables	10
Planning: techniques	11
Project Management Software	12
Time and insights into deep work	13
Time management tools	15
Final remarks	16
Activities	17
Scientific policy in action	17
Writing a narrative with Open Alex	18
Writing an open science narrative	19
Establishing goals and tasks	20
My tasks with Trello	21
Readings	22



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Narrative CVs

DORA and CoARA

In the realm of scientific evaluation, a new model of assessment has been developed over recent years, articulated in three clearly defined phases. The first phase is characterized by the publication of a series of manifestos and declarations, culminating in the consolidation of a movement towards the responsible use of metrics. In the second stage, the assimilation of the manifestos is observed, along with a growing commitment by some institutions towards the development of more sophisticated indicators and ethical evaluative practices more adapted to the specific context of evaluations. The third phase involves the institutionalisation of these principles through the creation of alliances such as CoARA (*Coalition for Advancing Research Assessment* - [website](#)), representing the formalisation of the Open Science movement's aspirations and values into robust organisational structures aimed at promoting systemic and global changes beyond mere publication and data openness, but at the very core of the scientific evaluation process; changes fundamentally guided by the use of qualitative judgements and peer review, to the detriment of bibliometric indicator usage.

Bibliometrics, as a field of study, has significantly evolved in the last part of the 20th century, consolidating as an applied discipline initially based on the counting of citations and publications. Throughout the 20th century, the process of retrieving bibliographic citations in scientific works was monopolised by a single company, which commercialised the so-called Citation Indexes (Science Citation Index and Social Science Citation Index), later known as Web of Science (WoS), as well as the well-known Journal Citation Reports (JCR), which included the—now repudiated and criticised— Journal Impact Factor (JIF) as its star indicator. Bibliometric indicators were adopted en masse at the expense of an exclusive dependence to obtain them from a single data source (WoS), despite its obvious limitations in bibliographic coverage. The main consequence has been a predominant and decisive use of the JIF in evaluating the scientific impact of articles and researchers by evaluation agencies and scientific institutions, despite the recommendations of its own creator (Garfield, 2002) as well as hundreds of works and editorials that denounced the limitations linked to its misuse (Larivière & Sugimoto, 2019). However, the JIF consolidated its reign based on its ease of understanding, low cost, and speed of calculation, promoting an extensive and global use of metrics. Nonetheless, from the year 2004 onwards, the situation began to change.

On one hand, a greater number of information sources were introduced to the market, allowing for a diversification in citation acquisition, which in principle, mimicked the existing model and replicated with some variables the main indicators. Moreover, the digital era and Web 2.0 contributed to the emergence of new digital metrics (Bollen et al., 2005), expanding the quantitative horizons towards so-called webometrics (Thelwall, 2008), and ultimately generating a complete and infinite family of alternative indicators (altmetrics) (Torres-Salinas et al., 2013). This transformation led to a significant increase in the supply of sources, indicators, methodologies, and techniques, also favouring quantitative evaluation at the article level, thereby reducing the dependence on journal-based metrics or other publication aggregates.

This context led to reflection processes that resulted in the publication of various manifestos and declarations. These manifestos primarily aimed to criticise certain bibliometric practices and indicators, especially the JIF and the H-index. They also encouraged the adoption of good practices in the use of bibliometric indicators, promoting their adaptation to the new realities of scientific research and the incorporation of new metrics, more in line with the new platforms for the publication and dissemination of scientific knowledge. Among the most

influential and decisive documents are the *San Francisco Declaration on Research Assessment* (DORA) - ([website](#)) and the *Leiden Manifesto* ([website](#)).

- *DORA (San Francisco Declaration on Research Assessment)* (2012): This Declaration advocates, in the metric part, for the elimination of the emphasis on the JIF as the main reference and focuses on evaluation based on merit and the actual impact of research. DORA is one of the first Declarations to address the need to change the way research is evaluated with global influence.
- *Leiden Manifesto* (2015): This manifesto focuses on providing principles for research evaluation and decision-making based on bibliometric metrics. It advocates for transparency in the selection of indicators, the importance of diversity in evaluation methods, and the need to consider the disciplinary context in research evaluation.

While Leiden and DORA have been the most relevant activities, they have not been the only ones, being complemented by other sector-specific manifestos, among which the Altmetrics Manifesto^[4] and the Metric Tide report (Wilsdon et al., 2015) particularly stand out in our field.

- *Altmetrics Manifesto* (2010): The Altmetrics Manifesto highlights the importance of alternative metrics (altmetrics), focused on expanding the impact dimensions of scientific publications through the quantification of their dissemination and consumption on websites and social media platforms, as well as their mention in media and non-scientific publications (reports, guides, grey literature), through unconventional indicators beyond traditional citation metrics.
- *The Metric Tide* (2015): An independent report by the UK Metrics Task Force on the ethical and social challenges related to research metrics of significant influence among bibliometricians. It emphasises the importance of more responsible and ethical research evaluation, highlighting the need to focus on quality and diversity of outcomes, promoting transparency and accountability in the use of metrics, and advocating for a multidimensional evaluation that includes both qualitative and quantitative indicators. Additionally, the report warns about the unwanted effects of an excessive dependence on metrics and hypercompetition in scientific research

Narrative CVS

At this pivotal moment, the question arises about what tools will be available for evaluators. One of the significant changes brought by these new evaluation systems is the implementation of the Narrative CV, a philosophy primarily supported by DORA and already beginning to be adopted by many institutions, albeit in a quite heterogeneous manner. An example is the Spanish National Research Agency, which requests it from Principal Investigators (PI) in their research project evaluation processes, through the Abbreviated Curriculum Vitae.

This approach aims to move beyond extensive listings of publications and merits. According to DORA's website, these narrative curricula promote a "quality over quantity" mindset in the evaluation of academic careers, reducing the emphasis on journal-based indicators and adapting to non-linear research trajectories. Thus, narrative CVs aim to minimize the role of journal prestige in the evaluation of candidate profiles. The underlying idea is to allow individuals to more effectively demonstrate their contributions to research, teams, and society at large. Currently, the implementation of these curricula varies and is adapted to each organization, resulting in multiple versions.

However, one of the most popular is known as the Royal Society's *Résumé for Researchers* (R4R), a flexible narrative CV template designed to present a wider range of skills and experiences inspired by the "Résumé for Researchers" format, introduced by the Royal Society of London in 2019 ([website](#)). R4R combines elements of a CV and a cover letter, providing space to explain the context of academic achievements, allowing research staff to present relevant skills and experiences including mentoring and leadership, committee membership, outreach activities, and other contributions that do not always result in publications.

Another example of this new format can be found in the Swiss National Science Foundation, initially piloted in 2020 for research in medicine and biology, the curriculum includes eight sections and asks research staff to present four 200-word narratives describing their most significant contributions to science. Thus, it is suggested that these new curriculum formats could promote greater diversity and inclusion in science since narratives would allow scientists to better explain their achievements and contributions to science, especially when they do not fit into traditional resume categories.

Therefore, the adaptation and implementation of the narrative CVs proposed by DORA fall to the institutions, although all follow a common line. It is relevant to highlight that the global adoption of these new curriculum formats presents various challenges. One of them is the lack of homogeneity, an aspect against which DORA suggests the need for standardisation. Furthermore, it points out the importance of training both users in their preparation and reviewers in their interpretation. Hence, it proposes developing a common and flexible definition of the narrative CV that is adaptable to different organizational contexts. For professionals dedicated to evaluation and to the creation of tools that facilitate this standardisation, we face what we call the "metric challenge." This challenge involves overcoming the dependence on the JIF and introducing metrics that strictly adhere to the framework and rules established in manifestos and declarations. Following DORA's guidelines, organizations may employ quantitative indicators, including bibliometric indicators, as long as they comply with the conditions indicated in Table 4.

Conditions for the Use of Indicators and Metrics According to DORA

1	2	3
Minimize the role of the prestige of scientific journals	Privilege the quality and nature of achievements over quantification	Use metrics responsibly

This provides institutions and applicants with the freedom and opportunity to complement the defense of their merits in a robust and reasoned manner, using metrics and indicators subordinate to other types of narratives. Precisely, it is in this last challenge that Narrative Bibliometrics comes into play, which we will define next as a framework for the use of quantitative indicators conveniently described as a complement to other narratives.

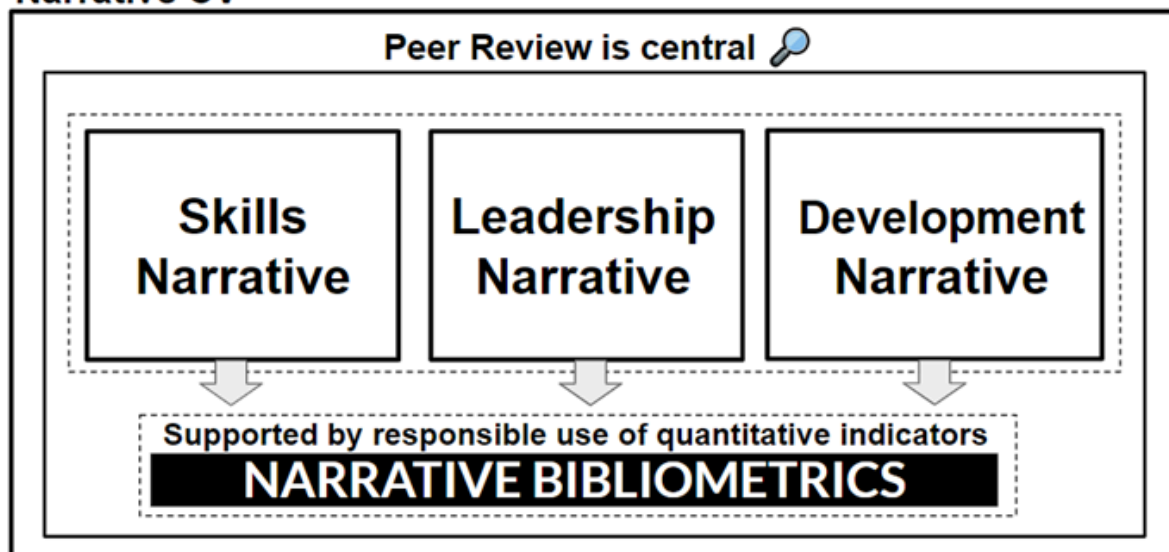
Narrative Bibliometrics

Given its conceptual simplicity, Narrative Bibliometrics can be defined as "the use of bibliometric indicators to generate stories and narratives that allow for the defense and exposition of a scientific curriculum and/or its individual contributions within the framework of a scientific evaluation process" (Torres-Salinas, 2023). Thus, we are talking again about a type of Bibliometrics that is instrumental in nature, essentially acting as a support or aid for the generation of specific quantitative narrative aimed at a detailed and responsible exposition of evidence and indications related to the impact, attention, dissemination, and influence of any type of scientific results. Due to its inherent characteristics, Narrative Bibliometrics must necessarily be framed within the theoretical and practical corpus of Evaluative Bibliometrics, which implies adherence to and respect for the five fundamental principles previously exposed.

This means that the information provided by bibliometric narratives must facilitate decision-making in scientific policies, such as hiring, promotions, and salary supplements. Moreover, these narratives are subordinate to expert judgment and serve as support for other forms of narrative.

The integration of Narrative Bibliometrics in the framework of narrative curricula established by DORA is subordinate to other narratives and under the supervision of Peer Review

Narrative CV



From a methodological perspective, bibliometric narratives must consider the diverse contexts of both the evaluative framework and the subject evaluated. It is essential that they have a multidimensional character, avoiding an exclusive focus on journal indicators or citations. Lastly, the information provided must be transparent and verifiable, thus ensuring its reliability and usefulness in the evaluation process. Therefore, Narrative Bibliometrics is a younger sibling of Evaluative Bibliometrics, whose main goal is to offer practical solutions in new evaluative procedures.

What exactly does Narrative Bibliometrics entail? It can be described as the 'Bibliometrics of common sense', where raw data is given meaning in a logical manner. That is, it is a narrative that encourages researchers to analyze and contextualize each indicator, avoiding their isolated and disconnected presentation. This moves away from what has traditionally

been known in Evaluative Bibliometrics as bean counting, a term referring to the decontextualized application of indicators (Rafols and Stirling, 2021). While descriptive Bibliometrics has historically been a data-driven discipline, our proposal moves towards an understanding of bibliometric data, recognizing that numbers alone cannot fully capture the value and importance of scientific research.

In a sense, by promoting a narrative of what happens behind the data, Narrative Bibliometrics avoids the simplification involved in merely presenting a bibliometric indicator. Moreover, it can help to prevent problematic behaviors in academia, such as the manipulation of indicators or high rates of self-citation.

Within the framework of Narrative Bibliometrics, it is crucial to establish principles that guarantee not only the quality and relevance of the analysis but also its replicability and adaptability to different academic contexts. These narratives must go beyond mere data presentation, incorporating elements that ensure a comprehensive understanding of the scientific contribution. For this purpose, it is essential to consider key aspects such as the clarity of sources, the uniqueness of contributions, adaptation to the specific field of study, appropriate contextualization, and avoiding direct comparisons with other colleagues. These recommendations are developed in detail below.

There are various ways to construct and understand narratives derived from bibliometric indicators, many of which may overlap and must be combined appropriately to create an effective discourse and defense. Below, we explore five key examples of these narratives, each providing a unique perspective. These examples range from the Narrative of Position, which contextualizes contributions within a broader framework, to the Narrative of Open Science, highlighting proactivity in the dissemination of scientific work. These perspectives enrich bibliometric data and offer a more comprehensive view of the impact of scientific work. It is important to mention that the narratives presented focus on individual contributions or articles. Additionally, it should be noted that curricula vitae (CVs) often have a character limit, implying the need for effectively synthesizing the message for the evaluating personnel.

- **Narrative of position:** Provides an essential comparative perspective to position a scientific contribution relative to others. This narrative relies on the use of normalized indicators, such as the Category Normalized Citation Impact (CNCI) or the Field Weighted Citation Impact (FWCI), which evaluate the impact of a publication compared to other works in the same field, year, and document type. These indicators are particularly valuable as they offer an analysis adjusted to the specificities of each discipline (Torres-Salinas et al., 2018). Furthermore, the utility of these indicators extends when bibliographic databases provide the position of an item in a collection, considering quartiles and percentiles, translating into a significant measure to determine the relevance of a publication within its specific field. This narrative approach is especially valuable for highlighting the position of research through various indicators, whether citation, usage, among others, thereby underlining its importance and relative contribution in the scientific field. Metrics referring to the average number of citations available in products like Essential Science Indicators, Hot Papers, and Highly Cited Papers could also be included in this category.
- **Narrative of context:** Emphasizes the relevance of the environment and place in which the publications have been cited, offering an enriching perspective on the application and practical utility of scientific works. By conducting a detailed analysis of the locations and modes in which our works are mentioned, a detailed narrative about their theoretical and practical impact can be developed. This approach allows discerning, for example, if a study is having a significant influence on the

development of theoretical debates or the evolution of methodologies through the classification of citations according to article sections (e.g., introduction, methodology, discussion). Such distinction is of utmost importance for evaluating personnel, as it provides a deeper and more nuanced understanding of the scope and relevance of research. Contextual metrics, integrated into platforms like Web of Science or the `_scite` database, can be effectively employed for a more comprehensive assessment of academic impact.

- **Narrative of agents:** Focuses on identifying, describing, and characterizing the different actors, both individual (authors) and collective (groups) and institutional (organizations), that use and employ the results of our work. Providing a detailed analysis of who is applying the knowledge derived from our research gives a clear and objective view of its real impact. This perspective is fundamental to understanding the nature of the impact generated, whether educational, social, economic, or otherwise. Tools like Overton , for example, offer the ability to track the use of a publication in globally relevant policy reports, such as situation reports from the World Health Organization (WHO) or strategic documents from the European Union. This narrative, therefore, not only allows an understanding of the influence of our publications in various contexts outside the scientific ecosystem.
- **Narrative of audience:** Focuses on the potential reach (audience) of findings across different audiences. Unlike the narrative of agents, which makes use of and mentions our publications in other texts, the audience narrative specifically focuses on the reception of our work and its filtering in various ways. It is crucial not only to quantify but also to qualify the recipients of our research. In the context of the press, for instance, it is important to consider both the media outlets involved and their audiences, taking into account their reach (local, national, international). On digital platforms like Twitter, not only the volume of mentions is relevant but also the potential reach of these, considering the number of followers of those who interact with the content. The detailed identification and description of the audience profile, whether scientific or media, adds a crucial dimension to the impact analysis. This approach has been discussed by Arroyo-Machado and Torres-Salinas in 2023, highlighting its importance on platforms like Twitter or Wikipedia.
- **Narrative of Open Science:** This narrative highlights the research personnel's proactivity in disseminating their work on open platforms. It primarily focuses on indicating whether, on the one hand, publications have been deposited in open access in institutional or thematic repositories (for example, the University of Granada has DIGIBUG, and at the European level, we recommend Zenodo). These narratives can be accompanied, where appropriate, by the repositories' usage data. On the other hand, it focuses on indicating whether the preprint version was deposited and disseminated prior to publication, or if the data derived from our publications (datasets, software) have been deposited in open access. Beyond mere deposit, it can be indicated if the description and deposit of these data have been carried out according to certain standards (for example, the FAIR principles). In addition to the mentioned usage indicators, indicators on file size, shared volume, etc., can be offered. In all cases, it is advisable to accompany the records with persistent identifiers (DOI, handle, etc.) for correct identification.

Bibliometric Indicators

The use of multiple indicators that provide a broader and more detailed view of what is being evaluated is recommended. Indeed, this claim is not new. It is necessary to bear in mind that, far from seeking a perfect indicator adaptable to any scenario, it is crucial to properly understand the different indicators, especially their limitations. The key lies in integrating them, overcoming their potential deficiencies, rather than discarding them because of their limitations (Martin, 1996). This integration allows for a balanced evaluation that more

accurately reflects the complexity of the phenomena evaluated. Therefore, the focus should be on how different indicators can complement each other to offer a more comprehensive overview, which in turn leads to more informed and effective decisions. With the aim of providing as broad an image as possible of the influence and impact of a publication, we can establish a distinction between four basic dimensions for the different indicators to be used in Narrative Bibliometrics:

- **Scientific impact:** This dimension focuses on measuring the relevance and influence that a publication has within the scientific community. It uses metrics based on the number of times the work is cited in other academic works, providing a direct reflection of both the attention and usage it is receiving from the community.
- **Relevance of the medium:** This dimension pays attention to the environment in which the work is published, considering both quantitative and qualitative aspects. Quantitative criteria derive from the scientific impact of its publications, while qualitative criteria address editorial policies and the quality of the medium, reflecting the importance of context in the valuation of the publication.
- **Social attention:** This dimension addresses the dissemination of the publication in social media based on mentions it receives on digital platforms and conversations on social networks, thereby reflecting attention from agents who may be outside academia.
- **Usage and visibility:** This dimension concentrates on the accessibility and reach of the publication in the digital world through metrics that directly address the usage of the work and the traffic generated by it. This provides a reflection of the access and reach of the publication.

Narrative Examples

Narrative of position

✓ *Despite its recent publication, our proposal is receiving significant attention from the scientific community, and the study indexed in Scopus under the thematic category of "Environmental Sciences" has 40 citations, thus significantly exceeding the average of 10 citations typically expected for publications in this category in 2021. Therefore, it quadruples the citation expectations in its field. Applying the Field-Weighted Citation Impact (FWCI) indicator, which contrasts received citations with those expected, results in an FWCI of 4, thus evidencing the exceptional impact of the work in the area of Environmental Sciences.*

Narrative of context

✓ *Our work has received 30 citations. Consulting _scite, we find that 5 citations are in the introduction, 5 in methodology, and 20 in the discussion. This indicates that the work has generated some interest, being used as a basis for contrasting results in other publications. For example, Braun (2023) states that 'our results corroborate the values reached for gene sequencing in diverse populations by Torres-Salinas, which means that their method is valid for comparative genomic studies and opens the doors to multiple applications in personalized medicine and the analysis of genetic patterns at a population level.*

Narrative of agents

✓ *Our publication "The spread of true and false news online" has had a wide dissemination in different impacts to the scientific community as it is referenced in 26 policy reports such as the "OECD Public Governance Policy Papers" (OECD), the "Key social media risks to democracy" (Publications of the European Union), or the "Online Safety Bill: supporting documents" (gov.uk). Therefore, our recommendations*

on the evaluation of fake news are being applied for the design of public policies and the creation of guides. The indicated information can be verified in the Overton database. Moreover, it has not only had a political influence but also transferred knowledge to the technological field as demonstrated by the four mentions from patents registered in the United States (US-11636679-B2, Grant US-11494446-B2, Grant US-11176380-B2, Grant US-10691951-B1), information that can be quickly verified through the Dimensions database.

Narrative of Open Science

✓ Our recent article on learning algorithms has been disseminated in pre-print format in the Digibug (handle 10.5430/DGB.2023.056AB) and Zenodo (DOI 10.5281/zenodo.789123) repositories. Additionally, the study's supplementary materials are available on FigShare (DOI 10.2132.3232/fig2224). Among these, Supplementary Document 1 (DOI:10.1234/SCI2S.2023.001), offering detailed precision results for each classification method, and Supplementary Document 2 (DOI:10.1234/SCI2S.2023.002), with the Wilcoxon test results, stand out. These documents, with more than 5400 combined downloads (3723 from the United States, 1200 from the United Kingdom), have generated significant interest in the academic field.

✓ The datasets from our study on machine learning algorithms, hosted on DataSphereX under the identifier IX:10.DSX/2023/DATA01, comprise approximately 500 GB of information distributed over more than 2 million rows and 100,000 columns. With over 3000 downloads, these data have been fundamental in cross-disciplinary research, complying with the FAIR standards for scientific data management and use. For example, in educational psychology, they have been reused in the study "Impact of Machine Learning on Educational Assessment" (DOI:10.5555/edu-tech.2023.004), analyzing 200,000 rows to discover learning patterns. In communication sciences, they enriched the analysis in "Social Networks and Informational Behaviour" (DOI:10.5555/com-sci.2023.010), and in public health, they contributed to "Big Data Analysis for Disease Prevention" (DOI:10.5555/pub-health.2023.021). This interdisciplinary reuse demonstrates the applicability and relevance of the data, highlighting the importance of sharing open and accessible information to foster scientific collaboration and knowledge advancement.

Narrative of audience

✓ The results of our study on adolescent mobile phone use were disseminated on Twitter to inform various associations, professionals, and colleagues. The work was retweeted 65 times, and according to Twitter, the total tweet impressions were 10,100. It's worth mentioning that 40% of the interactions came from institutional accounts such as @JovenesSaludables, @PrevencionAdol; some scientific societies also echoed it, like @SocPediatria, @CienciaAdolesc, and @PsicoEducaJoven. In the comments from various institutional accounts (for example, @InstFamiliaAdol, @EducaSalud), they mention that the protocols on youth well-being and digital risk prevention are reinforced by our findings. Furthermore, as a result of this dissemination, we were contacted by the EducaDigital Association to offer a virtual course on effective strategies for responsible mobile phone

Professional planning

Introduction

The transition from understanding scientific policies and dissemination metrics to implementing strategic planning and setting objectives marks a critical step for advancing an academic career and developing impactful research. This holistic approach is essential for connecting acquired knowledge about the academic environment and publication trends with strategic actions that enhance professional progress and scientific contribution. In this section, we will analyze the following key points: the importance of Strategic Planning and Objective Setting, exploring advanced techniques for defining short, medium, and long-term goals; the creation of a Personalized Strategic Plan, which includes formulating a clear mission, vision, and objectives; the use of Tracking and Progress Evaluation Tools, to effectively measure advancement towards established goals. This detailed analysis aims to provide a practical and strategic guide for cultivating a successful and meaningful academic career, marked by relevant and high-impact research.

Objective-based Planning: variables

The definition of short, medium, and long-term objectives in the realm of research demands meticulous and strategic planning, particularly in environments where academic evaluation policies and specific criteria set by institutions or countries govern expectations of scientific productivity. Aligning research objectives with these standards is crucial for success and progression in one's academic career. This alignment not only ensures compliance with external requirements but also fosters a structured approach to research, enabling scholars to prioritize their efforts effectively and navigate the competitive landscape of academia with clarity and purpose. Furthermore, this process encourages the development of a forward-thinking mindset, crucial for anticipating future challenges and opportunities within one's field of study. By integrating these objectives into a coherent plan, researchers can more efficiently allocate their resources, time, and efforts, thereby maximizing their impact and advancing their career trajectories in meaningful ways.

Below are some techniques applicable to this process, enhanced and expanded for clarity and comprehensiveness:

1. **Analysis of institutional requirements and policies:** Initially, it's crucial to conduct a detailed analysis of the specific publication and evaluation requirements set by the institution or within the national context. For instance, if a certain number of publications are required within a specific timeframe, this requirement should serve as the starting point for setting objectives.
2. **Breakdown of objectives by periods:** Once the requirements are identified, it's recommended to break down the general objectives into smaller, more manageable goals. For example, if five publications are required over two years, planning to submit two articles in the first year and three in the second can simplify time management and priority setting.
3. **Assessment of availability and resources:** It's essential to determine how much time can be dedicated to research, what resources are available (e.g., project funding, access to databases, laboratories, etc.), and which collaborations can be leveraged. Early identification of funding needs or collaboration opportunities is key to preventing setbacks.
4. **Planning based on skills and training:** Defining objectives should take into account the existing skills and knowledge on the research topic, as well as areas where

additional training is required. This could range from updating specific methodologies to collaborating with experts in complementary areas.

5. **Setting milestones and continuous evaluation:** For each objective, clear and measurable milestones should be established, allowing for periodic evaluation of progress. This practice helps adjust the strategy as needed, ensuring alignment with the overall objectives and established timelines.
6. **Flexibility and adaptability:** Given the dynamic nature of research, maintaining a flexible attitude and being prepared to adapt objectives and strategies to changes in the research environment, new findings, or shifts in funding and publication policies is crucial.
7. **Peer review and feedback integration:** Actively seeking peer review and feedback throughout the research process can provide critical insights and help refine objectives and methodologies, ensuring the research's relevance and quality.

By employing these enhanced and additional techniques, researchers can more effectively plan and manage their objectives, navigate the complexities of academic research, and achieve their goals with greater precision and success.

Planning: techniques

To effectively manage research objectives in the short, medium, and long term, it is essential to adopt techniques that allow for precise organization, continuous monitoring, and strategic adaptability. These additional techniques can be crucial for maximizing the efficiency and impact of research:

- **SMART method for defining objectives:** Objectives should be Specific, Measurable, Achievable, Relevant, and Time-bound (SMART). This technique ensures that each objective has a clear purpose, defined success criteria, is realistic, of significant importance, and has an established timeline. The application of this method provides a clear guide and facilitates progress tracking.
- **Backward planning:** This technique involves starting with the end goal in mind and planning backward to determine the necessary steps to achieve it. Identifying the desired outcomes and then determining the activities and resources needed to achieve those outcomes can help prioritize tasks.
- **Use of project management software:** Utilizing project management software like Trello, Asana, or Microsoft Project can significantly streamline the planning, execution, and tracking of research projects. These tools offer functionalities for task scheduling, milestone setting, collaboration among team members, and progress tracking. Using project management software ensures that all project activities are aligned with the set objectives, facilitating real-time adjustments and fostering team communication.
- **Time blocking technique:** This method involves allocating specific blocks of time to work on particular tasks or objectives, thereby minimizing distractions and increasing productivity. Time blocking can be particularly effective for research projects, where deep focus is required for tasks such as literature reviews, data analysis, or writing. By scheduling dedicated time slots for these activities, researchers can better manage their workload and ensure consistent progress toward their goals.
- **Regular review and adjustment sessions:** Implementing a routine of regular review sessions to assess progress toward objectives is crucial. During these sessions, researchers can evaluate what has been accomplished, identify any barriers encountered, and adjust their strategies accordingly. This approach allows for the dynamic adaptation of plans in response to new findings, challenges, or changes in the research landscape. It also serves as an opportunity to celebrate achievements, maintaining motivation and engagement with the project.

Case Study 1: Publication Objectives for a Junior Researcher

Dr. Alvarez, a newcomer to the field of environmental microbiology at a European university, faces the challenge of establishing himself in his new academic environment. Aware of the publication demands of his institution, which requires at least three articles in journals indexed in the JCR within the first two years, Dr. Alvarez applies the SMART technique to define his objectives. He decides to focus on one goal of publishing a review article on next-generation sequencing techniques in the first year and two original research articles based on his experiments in the second year. To manage his time and resources efficiently, Dr. Alvarez utilizes project management tools like Trello, where he organizes his tasks into phases of research, writing, and revision, assigning specific deadlines for each phase.

Furthermore, Dr. Alvarez establishes collaborations with colleagues from his department and a partner university in Latin America, sharing research interests. This not only expands his collaboration network but also provides him access to complementary experimental resources. To ensure steady progress towards his goals, Dr. Alvarez conducts monthly reviews of his advancement, using these moments to adjust his planning as necessary. The implementation of time management strategies, such as the Pomodoro technique during intensive writing phases, helps him maintain high productivity. By the end of the two years, he has not only achieved his publication goal but has also laid a solid foundation for his research career.

Case Study 2: Developing a Research Line in Artificial Intelligence

Dr. Santos, an associate professor in a computer science department, sets out to develop a new research line in machine learning applied to digital health. Her long-term goal is to secure competitive funding for her research group and establish her leadership in this emerging field. Using the backward planning method, Dr. Santos defines her main goal as submitting a robust research project to national and international funding calls in three years. To reach this objective, she breaks down her plan into short- and medium-term goals, such as conducting an extensive literature review in the first year and developing a series of algorithm prototypes in the second.

Aware of the importance of academic visibility, Dr. Santos focuses on publishing preliminary research results at international conferences and open-access journals, using Figshare indicators to monitor the dissemination of her work. Implementing tracking and progress evaluation tools allows her to measure the impact of her publications and adjust her dissemination strategies. Collaboration with experts in digital health, both within and outside her institution, significantly broadens the scope of her research and strengthens her project proposal. By the third year, Dr. Santos has not only succeeded in establishing a new, recognized research line in her field but has also secured significant funding to continue expanding her impact at the intersection of artificial intelligence and health.

Project Management Software

Project management and progress tracking tools available in open access offer a range of features and functionalities designed to optimize organization, collaboration, and evaluation in research projects. Their most notable characteristics include the ability to plan visually, allowing users to create and assign tasks, set deadlines, and visualize progress through Gantt charts, Kanban boards, or task lists. They facilitate real-time collaboration, enabling team members to share documents, updates, and feedback without geographical barriers, which is crucial for globally dispersed research teams. These platforms also offer tracking and evaluation functionalities, with which researchers can set progress indicators, receive alerts about deadlines, and adjust their work strategies based on observed performance. Additionally, the integration of external tools and applications extends their utility, allowing everything from the management of bibliographic references to internal communication. These tools not only increase efficiency in the management of research projects but also promote greater transparency and accountability among team members, ensuring that objectives are effectively achieved within established timeframes.


	
<p><i>Trello: Trello is a card-based project management tool that allows for the visual organization of tasks, deadlines, and goals. In the research context, it can be used to assign specific tasks, set deadlines, and monitor the progress of each project stage. Its intuitive interface facilitates team collaboration, allowing all research group members to see updates in real time.</i></p> <p>website </p>	<p><i>GanttProject: GanttProject is a project management software that provides Gantt charts for planning and scheduling projects. It is particularly useful for researchers who need to visualize the duration of tasks and their sequence. It allows the creation of a project timeline, identifies overlaps, and adjusts deadlines as necessary.</i></p> <p>website </p>
	
<p><i>OpenProject: OpenProject is an open-source project management tool offering a wide range of functionalities, including project planning, task tracking, and document management. In research, it can be used to collaborate on documents, manage project planning across all phases, and ensure that all team members are informed of progress and changes.</i></p> <p>website </p>	<p><i>Kanboard: Kanboard is a project management application that uses the Kanban method to visualize workflow. It is especially useful for researchers who prefer a simple yet effective visual representation of task progress. Kanboard allows limiting the number of tasks in progress to focus effort and improve efficiency at each project stage.</i></p> <p>website </p>

Time and insights into deep work

Efficient time management in the academic realm poses a significant challenge due to the diversity and complexity of activities involving research, administrative management, and teaching. The ability to clearly define which tasks we allocate our time to is crucial, not only for optimizing available resources but also for achieving our professional and personal goals. In this context, it is essential to set clear priorities, strategically plan the appropriate timing for each task, and ensure that these activities are aligned with our long-term objectives. This requires a deep understanding of time management as an essential skill in an academic career. Time management within the academic environment encompasses a vital set of practices and considerations, given the multifaceted nature of academic duties that span research, administrative responsibilities, and teaching. The core challenge here lies not just in the sheer volume of tasks but in their varied nature, each demanding distinct sets of skills, levels of engagement, and time commitments. This diversity necessitates a strategic approach to how time is allocated, underscoring the importance of clear task definition.

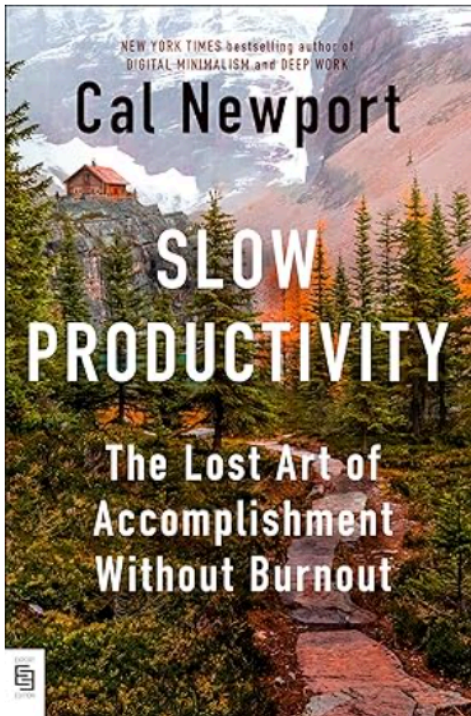
The ability to delineate with precision the tasks to which time will be dedicated is pivotal. This clarity serves a dual purpose: it ensures that the limited resource of time is utilized most effectively, thereby maximizing the output from available resources, and it also facilitates the attainment of both professional and personal objectives. These objectives often include advancing academic knowledge, contributing to the academic community, and achieving work-life balance, among others. To navigate this complexity, setting clear priorities emerges as a foundational step. It involves discerning which tasks are most critical to long-term goals and ensuring they are allotted sufficient time. This prioritization must be accompanied by a strategic planning process, where the timing for each task is considered within the broader context of academic and personal schedules. The aim is to align daily and weekly tasks with overarching goals, thereby integrating short-term actions with long-term objectives.

Achieving this alignment demands a nuanced understanding of time management as a skill. It's not merely about scheduling or the mechanical allocation of hours but encompasses a deeper comprehension of one's own working patterns, the ability to adapt to unforeseen challenges, and the capacity to maintain focus on long-term goals amidst the demands of daily academic life. Thus, effective time management in academia is not only about managing tasks but also about managing oneself - it is about making strategic choices that reflect one's values, goals, and the realities of the academic profession.

Carl Newport's "Digital Minimalism" ([website](#) ) presents a critical examination of how digital technologies impact our ability to focus and maintain meaningful productivity. While his insights apply broadly, they hold particular relevance in the academic context. Here are five ideas from Newport's digital minimalism philosophy, described within the academic setting:

- **Conscious technology use:** Newport advocates for a mindful approach to technology, suggesting that we carefully choose which digital tools and platforms to engage with based on their true value. In academia, this translates to selecting digital resources that directly contribute to research, teaching, and administrative efficiency, while avoiding those that distract or detract from these goals.
- **Prioritizing Deep Work:** Newport emphasizes the importance of deep work—periods of focused, uninterrupted work that allow for the achievement of complex tasks and the cultivation of new skills. For academics, this means setting aside dedicated time for research and writing, free from the distractions of email, social media, and other digital interruptions, thereby enhancing scholarly productivity and creativity.
- **Reducing digital footprints:** The concept of minimizing one's digital presence to essential platforms only can lead to greater time and mental space for important work. Academics can apply this by limiting their active participation in numerous academic networks or social media channels to those that are most beneficial for their professional development and outreach.
- **Embracing leisure without screens:** Newport suggests replacing leisure time spent on screens with more fulfilling and restorative activities. Academics might find it beneficial to engage in non-digital hobbies, physical exercise, or face-to-face interactions with colleagues and students. Such activities can provide necessary breaks from screen time, reducing digital fatigue and enhancing overall well-being.
- **Technology sabbaticals:** Taking regular breaks from digital devices can help reset one's relationship with technology. For academics, periodic digital detoxes—such as during weekends or vacations—can help decrease dependence on digital communication and increase presence and mindfulness, both personally and professionally.

Extra reading



- 1) **Reduce Workload for Enhanced Productivity:** Newport stresses the importance of doing fewer things, advocating for a reduction in obligations to focus on meaningful projects. By minimizing workload, individuals can dedicate more time and energy to tasks that truly matter, leading to increased productivity.
- 2) **Pace Yourself for Sustainability:** Working at a natural pace is essential for long-term sustainability. Newport suggests varying work intensity throughout the year and emphasizes the significance of pacing oneself to prevent burnout and maintain productivity over time.
- 3) **Long-Term Planning is Crucial:** The book highlights the value of long-term planning, encouraging individuals to craft multi-year plans and seasonal strategies to guide their work efforts effectively. By setting clear long-term goals, individuals can align their daily actions with their broader aspirations.
- 4) **Prioritize Quality Over Quantity:** Obsessing over quality, even at the expense of short-term gains, emerges as a central theme. Newport emphasizes the importance of producing high-quality work, urging individuals to prioritize excellence over mere productivity metrics or performative activity.
- 5) **Implement Effective Strategies:** Practical strategies like pull-based workflows and seasonal work intensity variation are proposed to manage commitments effectively. By implementing these strategies, individuals can streamline their workflow, reduce overwhelm, and achieve sustainable productivity.

Time management tools

In the fast-paced and multifaceted academic environment, where scholars and students alike juggle research, teaching, administrative responsibilities, and personal development, effective time management emerges as a critical skill for success and well-being. The digital age, while offering vast resources for knowledge and connectivity, also presents unprecedented challenges to maintaining focus and managing time efficiently. Recognizing the potential of technology to both distract and support, identifying and utilizing strategic technological tools becomes essential in harnessing one's time effectively. Below, we delve into a curated selection of technological solutions specifically designed to enhance productivity and focus, enabling users to navigate the demands of academic life with greater ease and efficiency.

- **TomatoTimer** ([website](#)🌐): Elevating the Pomodoro Technique to a new level of accessibility, TomatoTimer is a user-friendly, web-based application that promotes disciplined work sessions. By structuring work into uninterrupted 25-minute intervals followed by a 5-minute break, this tool not only aids in maintaining a high level of productivity but also in preventing mental fatigue. Its simplicity and direct approach make it an invaluable asset for anyone looking to improve their time management skills without the need for complex setups or configurations.
- **StayFocusd** ([website](#)🌐): With the internet's endless stream of distractions only a click away, StayFocusd serves as a vigilant gatekeeper for your concentration. This browser extension empowers users to strictly limit the time spent on potentially distracting websites, effectively locking them out once their allotted time has been used for the day. It's particularly useful for academic professionals and students who find themselves frequently sidetracked by social media or other non-academic websites, helping to preserve precious time for more critical tasks.

- **Forest Mobile App** ([website](#)🌐): In a unique blend of time management and environmental consciousness, Forest offers a refreshing take on improving focus and productivity. By initiating a focus session in the app, users plant a virtual tree, which will only grow to maturity if the app remains undisturbed for the duration of the session. This innovative approach not only motivates users to minimize phone usage but also contributes to real-world environmental efforts, as the app partners with tree-planting organizations to plant actual trees based on users' virtual achievements. Forest adds a meaningful and motivational layer to time management, appealing to environmentally conscious individuals and those seeking a more engaging method to stay focused.

Final remarks

To enhance personal and professional productivity, particularly within the academic and professional realms, the following strategies offer a comprehensive approach to effective time management:

1. 🗒️ Establish clear objectives and align daily tasks with these goals

Setting clear, achievable goals is foundational to effective time management. Aligning daily tasks with these objectives ensures that every action taken is a step towards achieving broader ambitions, thus providing direction and purpose to daily efforts.

2. 🍅 Implement the pomodoro technique to improve concentration

The Pomodoro Technique, involving focused work sessions followed by short breaks, is instrumental in enhancing concentration and overall work efficiency. This method not only helps in maintaining high levels of productivity throughout the day but also aids in preventing burnout by ensuring regular rest periods.

3. 💻 Adopt digital minimalism by limiting exposure to technological distractions

Embracing digital minimalism involves consciously reducing the time spent on digital platforms that do not contribute to one's goals. By limiting exposure to technological distractions, individuals can focus more effectively on their tasks, leading to higher productivity and a more balanced digital life.

4. 🛠️ Utilize technological tools to support organization and productivity

Integrating technological tools into daily routines can significantly enhance time management and organizational skills, for example: TomatoTimer, StayFocusd, Trello & Forest.

5. ♻️ Conduct regular time management reviews to adjust strategies

Periodically reviewing and adjusting time management strategies and the tools used is crucial for continuous improvement in productivity. This practice ensures that strategies remain aligned with evolving goals and challenges, facilitating sustained personal and professional growth.

These strategies, when applied diligently, can significantly contribute to enhanced efficiency and productivity, empowering individuals to achieve their academic and professional objectives with greater ease and effectiveness.

Activities

Scientific policy in action

Analyze and distinguish the current scientific and evaluative policies at your university and within the national context. Identify the specific requirements related to scientific publication and research evaluation, including the preferred types of journals and the requested performance indicators. Subsequently, examine the implications of the San Francisco Declaration on Research Assessment (DORA) and the Convention on Openness in Academic Reviewing (COARA) within the framework of these policies. Develop a critical analysis on how these declarations influence or could influence evaluative practices and scientific publication in your academic environment.


Your response here

Writing a narrative with Open Alex

Starting from the scientific article by Mounir Belloumi (2009) titled 'Energy consumption and GDP in Tunisia: Cointegration and causality analysis', published in *Energy Policy* (volume 37, number 7, pages 2745–2753, DOI: 10.1016/j.enpol.2009.03.027), it is proposed to develop a narrative that integrates various bibliometric indicators. Using the [OpenAlex](#) database, locate the article in question and explore the variety of available bibliometric data. Reflect on which indicators would be most relevant for this analysis and how the information gathered contributes to contextualizing the impact and relevance of the work. Based on the selected indicators and the data obtained, prepare a narrative of approximately 250 words that synthesizes the bibliometric findings and their significance in the context of the research on energy consumption and GDP in Tunisia.

Your response here

Writing an open science narrative

Draft a narrative focusing on the utilization of indicators available on Figshare to describe the dissemination of the study  ['Explaining income-related inequalities in cardiovascular risk factors in Tunisian adults during the last decade.'](#) Highlight how open access platforms like Figshare facilitate the broader distribution and visibility of research findings, allowing for a detailed analysis of engagement through download counts, citation metrics, and social media shares. Emphasize the significance of these indicators in understanding the article's reach and impact within the academic community and beyond, underscoring the role of open access in enhancing the accessibility and applicability of research across disciplines.

Your response here

Establishing goals and tasks

You are a scientist at a prestigious institution with a broad range of responsibilities and projects planned for the next three years. Your commitments include:

- Completing a research project on a cutting-edge topic in your field.
- Publishing three articles in high-impact scientific journals.
- Teaching 140 hours in undergraduate and graduate courses.
- Attending and presenting at three international conferences.
- Participating in five advanced training seminars.
- Managing work groups with the scientific community and society.
- Processing and evaluating 150 applications for the master's program you coordinate.
- Acquiring state-of-the-art laboratory equipment for the next academic cycle.
- Organizing and coordinating meetings with internationally renowned visiting scientists.
- Supervising research projects of graduate students.
- Writing and securing a new research grant.
- Developing a new online course on emerging technologies in your field of study.
- Contributing to the development of scientific policies in collaboration with governmental bodies.

Timing:

- Short term: Within the first year.
- Medium term: Within the next two years.
- Long term: Within the next three years.

Exercise Objective: Your task is to develop a detailed strategic plan that includes:

- **Goal Definition:** Set specific goals for each of the listed tasks, organizing them by priority and timing.
- **Establishment of Objective Typology:** Classify these goals into short, medium, and long-term objectives.
- **Design of Specific Tasks for a Selected Goal:** Choose one of the established goals and design a set of specific tasks that will allow achieving it. This plan must include:
 - Concrete actions to be taken.
 - Necessary resources (human, material, financial).
 - Success indicators to assess progress.

Your response here

My tasks with Trello

The exercise involves becoming familiar with Trello, a project management platform based on the Kanban methodology, by creating a personal or group board. The student will need to set up a board for an imaginary project, which could be a research paper, organizing an event, or any academic project. This board should include at least three lists that reflect the typical stages of a project: "To Do", "In Progress", and "Completed". Within each list, the student will create detailed cards for specific tasks, assigning them to fictional team members (if done individually) or to classmates (if done in a group). Additionally, they should use color-coded labels to categorize tasks by priority, type, or thematic area, and explore collaboration options by adding comments on the cards to simulate communication among team members. This exercise aims for the student to acquire practical skills in project organization, teamwork, and the use of digital tools for task management.

Your response here

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Stratégies Numériques pour la Formation Doctorale
en Sciences Humaines et Sociales en Tunisie ■■■

Block 3:

Professional Development and Relationship Building



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This course is meticulously designed to equip researchers with the tools and knowledge needed to navigate the complexities of an academic career successfully. Drawing upon the European Commission's Research Profile Descriptors, it delves into the various stages of academic career development, setting clear expectations and milestones from the predoctoral phase to advanced academic positions. Participants will learn to formulate effective strategies for pivotal moments in their careers, such as making a significant impact at academic conferences, crafting compelling applications for postdoctoral roles, and securing funding for research projects. A significant focus of the module is on harnessing the power of networking for career advancement, offering practical advice on creating opportunities at conferences and the importance of research visits in expanding professional networks. Additionally, it addresses the challenges of transitioning into senior roles, highlighting skills in multitasking, mentoring, and project management that are crucial for academic leadership.

Characteristics:

- Realistic Career Goal Setting
- Effective Networking
- Transitioning into Advanced Roles

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Index

Index	2
Academic careers: Stages and Expectations	2
Developing strategies for career milestones	5
Predoctoral period	6
Postdoctoral period	9
Effective networking and social capital building	12
Understanding the Academic Landscape	13
Strategies for Building and Maintaining Professional Relationships	14
Challenges and Solutions in Networking	15
Reaching seniority: Multitasking, team building and project management	16
Multi-tasking and Prioritizing in an Academic Environment	16
Principles of Effective Mentoring	17
Project Management for Researchers: Tools and Strategies	18
Activities and Assignments	19
Career Strategy Plan	19

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Academic careers: Stages and Expectations

Embarking on an academic career is akin to navigating a complex and multifaceted landscape, each stage marked by its unique challenges and opportunities. Academic careers are distinguished by a series of unique features, milestones, and a dynamic interplay with professional development. Unlike linear career paths in many fields, academic trajectories are highly individualized and influenced by a multitude of factors ranging from the inception of one's doctoral journey to the attainment of tenured professorships or leadership roles within research institutions. The initial phase is heavily shaped by personal achievements, the quality and topic of doctoral research, the prestige of the awarding institution, and mentorship experiences. As scholars progress, their careers become increasingly defined by their ability to navigate the academic landscape, marked by significant milestones such as publishing in peer-reviewed journals, securing research funding, and contributing to the academic community through teaching and service .

Academic careers are further characterized by their fluidity, with pathways becoming less predictable and more susceptible to the influence of external factors such as the changing dynamics of the labor market, shifts in funding mechanisms, and the evolving nature of academic disciplines themselves. This unpredictability underscores the importance of strategic planning, continuous learning, and adaptability as key components of academic success. Additionally, the integration of professional and academic experiences, particularly through engagements with industry or policy-making, can enrich a scholar's career, expanding the traditional boundaries of academic work and contributing to a more diversified professional profile.

To navigate this cumbersome path, national and supranational bodies have tried to systematize it into different stages which help design career jobs, requirements and expectations. In this section we outline the various stages of an academic career, from early-stage researchers to established professors, drawing upon the European Commission's Research Profile Descriptors. Understanding these stages and the associated expectations is crucial for setting realistic goals and successfully navigating the academic world. The European Commission has delineated four broad categories: R1 (**First Stage Researcher**), R2 (**Recognised Researcher**), R3 (**Established Researcher**), and R4 (**Leading Researcher**). These descriptors provide a framework for understanding the skills, experiences, and accomplishments expected at each career stage.

The journey begins with the R1 stage, where individuals, typically Ph.D. students, lay the groundwork for their research careers by mastering methodologies, crafting proposals, and initiating their contribution to academia. Progressing to the R2 stage, researchers, now Ph.D. holders, start to assert their independence, though often within collaborative frameworks, by contributing to publications, engaging in peer reviews, and building their academic networks. The R3 stage is characterized by researchers establishing a significant presence in their fields, leading projects, mentoring newcomers, and playing active roles in governance and collaborative endeavors. The pinnacle, R4, is reached by those who lead their research areas, shaping the direction of their fields, mentoring a new generation, and securing substantial funding, embodying the leadership and vision crucial for advancing academic and scientific inquiry.

Stage	Description	Expected Achievements	Common Challenges
R1	Predoctoral phase up to obtaining a Ph.D.	<ul style="list-style-type: none"> • Completing Ph.D., • publishing initial research, • beginning to establish a network. 	<ul style="list-style-type: none"> • Finding Ph.D. focus, • securing funding, • developing skills
R2	Post-Ph.D. researchers not yet fully independent.	<ul style="list-style-type: none"> • Publishing in peer-reviewed journals, • securing postdoc positions, • expanding professional network. 	<ul style="list-style-type: none"> • Achieving independence, • balancing postdoc responsibilities with personal research interests.
R3	Researchers who have developed a level of independence.	<ul style="list-style-type: none"> • Leading research projects, • contributing significantly to their field, • mentoring junior researchers. 	<ul style="list-style-type: none"> • Managing research and administrative responsibilities, • securing consistent funding.
R4	Researchers leading their research area or field.	<ul style="list-style-type: none"> • Influencing research directions, • securing major grants, publishing impactful work, • holding significant academic leadership roles. 	<ul style="list-style-type: none"> • Balancing leadership and research activities, • ensuring research impacts beyond academia.

Understanding the expectations at each career stage is crucial for strategic career planning. In this course we will provide some guidance so that you can:

1. **Assess your current stage.** Identify your current position within the Research Profile Descriptors framework and evaluate your strengths and areas for development.
2. **Set realistic goals.** Based on your assessment, set achievable goals that align with the expectations of your current or desired career stage.
3. **Develop a strategic plan.** Create a detailed plan outlining the steps needed to reach your goals, including skill development, networking opportunities, and research outputs.

4. **Seek mentorship and feedback.** Engage with mentors and peers to gain insights and feedback on your progress and strategies for advancement.

For this, it is important to note that, while some factors will depend on your capabilities to plan and strategize, there will also be external factors you must consider and which can help or hinder your career progress.

Factor Type	Factor	Impact on Career Development
Individual Factors	Publications	Critical for establishing credibility and expertise in the field.
	Grants and Funding	Essential for conducting research, especially for independent and leading researchers (R3, R4).
	Networking	Facilitates collaboration, opens job opportunities, and enhances visibility in the academic community.
External Factors	Market Conditions	Affects availability of academic positions, funding opportunities, and the relevance of research topics.
	Institutional Support	Access to resources, mentorship, and administrative support can significantly affect research productivity and career advancement.
	Academic Policies	Tenure-track systems, promotion criteria, and evaluation metrics influence career trajectories and priorities.
	Societal Demands	Demands for societal impact and industry collaboration can reshape career opportunities and research focus.

Developing strategies for career milestones

The trajectory of an academic career is punctuated by various milestones that mark significant phases of professional development. Among these, the predoctoral and postdoctoral phases stand out as critical periods that shape the early stages of a scholar's journey. Navigating these phases effectively requires a nuanced understanding of the challenges and opportunities inherent to each stage, as well as strategic planning and proactive engagement with the academic community. In this section we will look into key

milestones during the pre- and postdoctoral phases that can influence in a crucial way your academic prospects. These are the following:

1. **Predocctoral period.** Here we will focus on the following:
 - a. Mentorship. Seek out mentors who can provide guidance, feedback, and support. A good mentor can help navigate the complexities of academic research, offer career advice, and open doors to networking opportunities.
 - b. Research plan. A clear research plan at the start of your PhD acts as an essential roadmap for the next four years. This plan must also consider the building of a strong CV which prepares you for the postdoctoral period. It's important to stay flexible, allowing for adjustments based on new insights and opportunities.
 - c. Research visit. In many countries it is highly recommended to have a first international experience during the predocctoral period. Selecting the right destination as well as designing specific goals and objectives for the research visit can foster the development of an international research network.
2. **Postdoctoral period.** Here we will focus on the following:
 - a. Securing funding. This challenge requires the ability to articulate research proposals clearly, understand the priorities of funding bodies, and manage awarded funds effectively. It's about ensuring that there are adequate resources to pursue research questions, pay for experiments or fieldwork, and cover associated costs like equipment or travel for conferences. Furthermore, it involves strategizing and applying for several calls with the same or similar projects to ensure success in at least one of the calls.
 - b. Establishing Independence. Another significant challenge is transitioning from being under the mentorship of more experienced academics to establishing themselves as independent researchers. This includes developing their own research agendas, making significant contributions to their field, and starting to mentor junior researchers themselves.
 - c. Navigating the Job Market. Finding a long-term academic position is increasingly challenging in a highly competitive job market. Postdocs must not only excel in their research but also build a strong professional network, enhance their teaching portfolio, and often be willing to relocate globally to secure tenure-track positions or equivalent roles in academia or industry.

Predocctoral period

The predocctoral phase is the bedrock of an academic career. It is a period characterized by intense learning, exploration, and the beginning of one's journey into the world of research. Investing time and efforts in this stage will maximize future opportunities and prospects of an academic. During this phase, individuals focus on acquiring a robust foundation in their chosen field of study, developing research skills, and formulating a viable dissertation proposal. Furthermore, it is a period when they start building their publication record, in order to be competitive in future stages and start building their academic reputation and network.

MENTORSHIP

Selecting the right mentor is vital for academic and professional growth, as they provide essential guidance, feedback, and support. Beyond expertise and career momentum, the ideal mentor should display empathy and a willingness to invest time in their mentees. Observing the experiences of previous PhD students under their guidance can offer insights into their mentoring style, including how they foster a supportive research environment and facilitate networking opportunities. The mentor's capacity for empathy and dedicated time are crucial for navigating the intricacies of academic research and career advancement, making these qualities indispensable in a mentor-mentee relationship.

Challenges and Solutions

- **Finding a Research Topic of Mutual interest.** Identifying a research topic that aligns with both the student's passions and the supervisor's expertise can be daunting. It requires balancing personal interests with the supervisor's research agenda and available resources. This is essential to capture a mentor's attention and demonstrate that a common research agenda can be built.

SOLUTION → Engage in open discussions with your supervisor about your interests and career goals. Analyze your potential supervisor's research activity focusing on their current projects and most recent publications. Conduct a thorough literature review together to identify gaps that excite both of you, ensuring the chosen topic is viable and aligns with mutual academic objectives.

- **Acquiring technical skills.** Mastering the necessary technical skills for your research can be overwhelming, especially when tackling complex methodologies or new technologies. Given the current pace of technological development and depending on the seniority of your supervisor, adopting these skills will greatly depend on your proactiveness and capacity to establish a self-learning agenda.

SOLUTION → Consider taking additional courses even if not mandatory to master your skills. Create and participate in study groups or workshops with fellow PhD students and postdocs. Sharing knowledge and resources within this community not only facilitates skill acquisition but also fosters a collaborative research environment.

- **Establishing a Professional and Empathic Relationship with a Mentor.** Building a relationship that balances professionalism with empathy can be tricky. It's essential for the mentor-mentee dynamic to support open communication, feedback, and personal development.

SOLUTION → Seek mentors who demonstrate an understanding of your academic and personal goals. Establish clear communication channels and regular check-ins to build trust and ensure your relationship is both supportive and constructive, aiding in your professional growth. Set up periodical reviews of your performance and use them to align your and their expectations.



RESEARCH PLAN



Creating a realistic research plan at the onset of your PhD journey is crucial, serving as a guiding roadmap over the four-year period. This plan should outline specific milestones and deliverables, while also strategically focusing on building a robust CV for the subsequent postdoctoral phase. Regularly revisiting and revising the plan is key, ensuring it remains flexible to accommodate new insights, discoveries, and evolving research directions. Such adaptability allows for the seamless integration of unforeseen opportunities and challenges, ensuring that your PhD trajectory not only meets academic requirements but also positions you strongly for future career opportunities.

Challenges and Solutions

- **Building a Timeline with Deliverables for PhD Completion.** Crafting a realistic and achievable timeline that encompasses all necessary deliverables within the PhD period can be daunting, often due to unforeseen research complexities and administrative hurdles.

SOLUTION → Start by breaking down the PhD into phases, allocating specific timeframes for each segment of your research, including data collection, analysis, and writing. Regularly review and adjust this timeline with your supervisor to stay on track and accommodate any unexpected changes or delays.

- **Creating a Publication Agenda for a Competitive CV.** Developing a publication strategy that complements your research timeline and enhances your CV's competitiveness by the end of your PhD can be challenging, especially given the unpredictable nature of research and publication processes.

SOLUTION → Identify key research milestones early on that could yield publishable findings. Plan submissions around these milestones and consider a mix of journal articles, conference papers, and other relevant outputs. Engage with your mentor to select appropriate venues and optimize your publication strategy for maximum impact.

- **Incorporating Research Visits and Conference Participation.** Balancing the demands of your PhD with the opportunities for research visits, conference participation, and preparing for postdoc applications in the final year requires careful planning and prioritization.

SOLUTION → Integrate research visits and conferences into your timeline early, viewing them as essential components of your PhD experience. Leverage these opportunities for networking and exposure to new ideas. Plan your final year to include dedicated time for identifying and applying to postdoc positions, utilizing your network and the reputation you've built at conferences and visits.

RESEARCH VISIT

Preparing for a research visit during the predoctoral period is pivotal for broadening your academic horizons and fostering international collaborations. Carefully selecting a host whose research aligns with yours ensures that the visit is mutually beneficial. Establishing a common goal, such as co-authoring a conference paper or journal article, can solidify this collaboration. Prior to concluding your visit, it's crucial to develop an agenda for ongoing cooperation, ensuring the relationship and shared projects continue to thrive. This strategic approach not only enriches your doctoral experience but also lays the groundwork for a robust international research network, enhancing your academic and professional prospects.

Challenges and Solutions

- **Preparing the Research Stay.** Identifying the right host and preparing a detailed research plan while securing necessary funding can be overwhelming. It requires aligning your research interests with those of potential hosts and navigating complex funding landscapes.

SOLUTION → Conduct thorough research on potential hosts to ensure their research aligns with your goals. Also consider if they have an agenda that allows them to dedicate their time to you. Develop a clear, concise research proposal that outlines your objectives for the visit. Explore multiple funding sources, including scholarships, grants, and university-specific funding opportunities, to cover your expenses.

- **During the Visit.** Establishing a common goal and integrating yourself within the host team or connecting with key individuals can be daunting, especially in a new cultural and academic environment.

SOLUTION → Early in your visit, schedule meetings with your host and relevant team members to discuss and agree on shared objectives. Actively participate in lab meetings, seminars, and social events to introduce yourself and understand the team dynamics and ongoing projects. This engagement facilitates meaningful collaborations and enriches your research experience.

- **Focusing on the Stay.** The temptation to continue working on pending tasks from your home institution can distract from the goals of your research visit, potentially undermining the visit's productivity and the establishment of a lasting collaboration.

SOLUTION → Prioritize the objectives of your research stay by focusing exclusively on the projects and collaborations at hand. Before concluding your visit, discuss and outline a future collaboration agenda with your host, ensuring a clear plan for maintaining the partnership and continuing joint research efforts once you return home.

Postdoctoral period

The postdoctoral period is a critical juncture in an academic's career, serving as a bridge between the completion of doctoral studies and securing a more permanent position within academia or industry. This phase is characterized by deeper research involvement, where postdocs are expected to develop a higher degree of independence, contribute significantly

to their field through publications, and start building their own research agenda. Networking, securing funding, and potentially leading projects or collaborations become pivotal. Success during this period often dictates the trajectory of one's academic career, making it a time for strategic planning, ambitious goal-setting, and intensive research focus.



SECURING FUNDING



Securing funding is a pivotal step in ensuring the continuation and success of your research endeavors. It demands not only a clear articulation of your research proposals but also a deep understanding of the priorities of funding bodies. By tapping into your and your PhD mentor's networks, you can identify potential external supervisors and funding opportunities. Strategizing by applying to multiple calls simultaneously increases your chances of success, as does learning the nuances of crafting compelling applications. This process not only secures the necessary resources for experiments, fieldwork, and academic participation but also sharpens your grant-writing skills, an invaluable asset in your academic career.

Challenges and Solutions

- **Looking for Calls and Strategizing.** Identifying relevant funding calls amidst a plethora of options and strategically deciding which ones to apply for can be overwhelming. The process requires staying updated on various funding opportunities and understanding their alignment with your research.

SOLUTION → Regularly review databases and newsletters from funding bodies, and set up alerts for new calls relevant to your field. Develop a strategic plan for applications, prioritizing calls based on fit, deadlines, and your preparedness to meet the application requirements.

- **Searching for Supervisors .** Finding the right supervisor or collaborator who aligns with your research interests and has the expertise to guide your project can be challenging, especially when extending beyond your immediate academic circle. They must understand that you are now an independent academic and therefore, you need the freedom to develop your own research agenda building from their expertise and start acquiring senior responsibilities and skills.

SOLUTION → Utilize your current network, including your PhD mentor, for introductions to potential supervisors. Attend conferences and workshops to meet researchers in your field. Consider using academic social networking sites to broaden your search and establish new connections. Learn about their expectations and supervision style. Be clear as to your own expectations and reaffirm your need for academic independence.

- **Writing Applications.** Writing compelling and successful funding applications requires a clear articulation of your research proposal, its significance, and its alignment with the funding body's priorities, which can be daunting for early-career researchers.

SOLUTION → Seek feedback on your proposals from mentors and peers, especially those with successful grant-writing experience. Take advantage of grant-writing workshops and resources offered by your institution. Carefully study successful applications and guidelines provided by funding bodies to understand what makes an application stand out.



INDEPENDENCE



Establishing your own research agenda and topics is a crucial step in the transition from mentee to independent researcher. It signifies your capability to identify and explore areas of significance within your field, leading to contributions that can shape future discourse. Leading your own papers demonstrates your ability to drive research forward, while also mastering the art of collaboration with others balances your individual pursuits with the broader academic community's progress. This balance enhances your research portfolio, fosters professional relationships, and positions you as a mentor to the next generation of scholars, further solidifying your independence and authority in your field.

Challenges and Solutions

- **Building Your Own Research Agenda.** Transitioning from working on assigned projects to identifying and pursuing your unique research interests can be daunting. It requires not only a deep understanding of your field but also the creativity to carve out a niche that contributes new knowledge.

SOLUTION → Engage in extensive literature reviews to identify gaps and emerging trends in your field. Seek feedback from mentors and peers on your ideas. Start with small, manageable projects that align with your long-term interests to gradually build your research agenda and move on from your PhD topic.

- **Balancing Collaborations with Leading Your Own Research.** While collaborations are invaluable for gaining diverse insights and access to broader resources, they can sometimes overshadow your individual contributions, making it challenging to establish your identity as a lead researcher.

SOLUTION → Actively seek opportunities to lead projects and be the primary author on papers. Set clear expectations with collaborators about your role and contributions from the outset. Choose collaborations that complement your research agenda and allow you to showcase your leadership skills.

- **Time Management and Prioritization.** Managing your time effectively to prioritize research, publications, and other academic commitments can be overwhelming. Learning to decline requests that do not align with your goals is essential for maintaining focus on your research agenda.

SOLUTION → Adopt robust time management strategies, such as prioritizing tasks based on their alignment with your research goals and deadlines. Practice setting boundaries by politely declining opportunities that do not contribute to your research objectives, allowing you to dedicate more time to your priorities.

JOB MARKET

In the competitive landscape of academia, excelling in research alone is not enough to secure a long-term position. Diversifying your skill set and gaining experiences beyond the confines of research are crucial strategies for standing out. Engaging in teaching, taking on management roles within research projects, and supervising junior researchers are valuable opportunities to showcase your versatility and leadership capabilities. These experiences not only enrich your CV but also demonstrate your readiness to take on multifaceted roles in academia or industry, making you a more attractive candidate in the global job market.

Challenges and Solutions

- **Gaining Teaching Experience.** Securing a tenure-track position often requires demonstrable teaching experience, which can be difficult to acquire for researchers focused primarily on their lab or fieldwork. Balancing research with teaching responsibilities can also be challenging.

SOLUTION → Seek opportunities to assist in teaching courses in your department, volunteer for guest lectures, or lead seminar discussions. Consider enrolling in teaching workshops or certificates offered by your institution to enhance your pedagogical skills and add teaching credentials to your CV.

- **Acquiring Management Experience.** Effective management skills are crucial for running a lab, securing funding, and overseeing projects, yet early career researchers may find few opportunities to develop these skills. Demonstrating your ability to manage time, resources, and personnel effectively can be challenging without prior experience.

SOLUTION → Volunteer to manage small-scale projects or collaborations within your research group. Offer to assist in grant writing and project reporting to gain experience in financial and resource management. Seek mentorship from experienced researchers on project management best practices.

- **Demonstrating Leadership.** Leadership is a key criterion for tenure-track positions, yet establishing yourself as a leader in your field can be daunting without significant achievements like leading a research group or chairing conference sessions.

SOLUTION → Take initiative by organizing symposiums, workshops, or special interest groups within professional societies. Mentor undergraduate and graduate students to demonstrate leadership in nurturing the next generation of scholars. Publish in high-impact journals and actively contribute to your academic community to build your reputation as a leader.

Effective networking and social capital building

Networking, in the context of professional development, involves the building and nurturing of relationships with individuals within and outside one's field of expertise. Its significance cannot be overstated, especially in academia and research, where collaboration, knowledge exchange, and opportunities often emerge through the web of professional connections. Effective networking can unlock doors to new collaborations, mentorships, funding opportunities, and even career advancements that might otherwise remain inaccessible.

The primary aim of networking is not merely to accumulate contacts but to foster meaningful professional relationships that can mutually benefit all parties involved over time. Key goals include:

- **Knowledge Exchange:** Networking allows for the sharing of ideas, insights, and experiences, enriching all participants' professional and personal growth.
- **Collaboration and Support:** Through a network, individuals can find collaborators for projects, support for initiatives, or advice on challenges faced in their careers.
- **Career Opportunities:** A well-maintained network can provide alerts to job openings, recommend positions, and even offer endorsements.
- **Professional Visibility:** Engaging with a network increases one's visibility in the field, which can lead to invitations to speak, collaborate, or contribute to professional publications and projects.

By understanding these goals, individuals can approach networking with a clear purpose, ensuring their efforts contribute to substantial and reciprocal professional relationships. Networking, thus, is not a mere transaction but a process of building a community that supports its members' collective and individual growth.

Understanding the Academic Landscape

The academic networking landscape is diverse, offering multiple platforms for engagement. These can be broadly categorized into:

- **Conferences and Seminars:** Traditional yet powerful venues for networking, where researchers and academics present their work, exchange ideas, and form collaborations.
- **Online Forums and Social Media:** Platforms like LinkedIn, ResearchGate, and academic mailing lists offer spaces for discussions, sharing recent publications, and connecting with peers worldwide.
- **Professional Associations:** Membership in professional bodies related to one's field can provide networking opportunities through events, workshops, and publications.
- **Informal Networking:** Sometimes overlooked, informal settings like departmental gatherings or meetups can foster meaningful connections in a more relaxed environment.





As established in Blok 1, a strong digital identity is crucial in today's academic environment. Your online presence serves as a digital handshake, often making the first impression on potential contacts. Elements to consider include:

- **Professional Websites:** A well-curated personal or lab website showcases your work, achievements, and interests, making it easier for like-minded professionals to find and connect with you.
- **Social Media Engagement:** Active participation in professional social networks can increase your visibility, allowing you to share your expertise, join discussions, and connect with leaders in your field.
- **Digital Etiquette:** Maintaining a professional tone, respecting others' views, and contributing constructively to online discussions are key to building a positive online reputation.

In understanding the academic networking landscape, it's essential to navigate these various platforms judiciously, balancing your online and in-person networking efforts. Each platform offers unique advantages and requires specific strategies to maximize its potential for career advancement.

Strategies for Building and Maintaining Professional Relationships

Building a robust professional network starts with reaching out and initiating contact. Here are strategies to make this process more effective. Here we provide you with some suggestions.

  TIPS FOR NETWORKING  	
Email Etiquette	Craft concise, respectful emails when reaching out for the first time. Personalize your message by mentioning specific interests or works of the recipient that resonate with you.
Social Media Engagement	Follow and interact with professionals and academics on platforms like LinkedIn and Twitter. Share, comment, and engage in discussions to gradually build visibility and rapport.
Conference Networking	Make the most of conferences by planning whom you want to meet. Prepare a brief introduction and questions or comments about their work to facilitate meaningful conversations.
Cultivating Relationships	Building a network is just the beginning; nurturing these relationships is where the real work lies.

Bear in mind that relationships are not mere transactional in academia, but also social. Building strong connections with colleagues, even personal relations is something natural

within academia and probably these will be the most enduring and beneficial in the long run. In this respect, as with friendships, cultivating these relationships is key to maintain long-lasting collaborations. Here some recommendations:

- **Follow-Up:** After initial contact, follow up with a message expressing your appreciation for their time and continuing the conversation on shared interests.
- **Collaborate:** Look for opportunities to collaborate on projects, papers, or panels. Collaboration is a powerful way to strengthen ties and contribute to your field.
- **Offer Support:** Networking is reciprocal. Offer your support, share opportunities, and be willing to help out when needed. This could mean sharing their work, recommending them for opportunities, or providing advice.

Navigating the nuances of professional etiquette is essential for fostering productive and respectful connections within your network. It's important to respect boundaries, acknowledging the value of others' time and privacy, especially during initial contacts and communications. Keep your interactions professional, succinct, and relevant. A cornerstone of effective networking is authenticity; being genuine in your interactions not only helps in building trust but also ensures that connections are meaningful and lasting. Demonstrating genuine interest in others' work, challenges, and successes can create a foundation for mutual support and collaboration. Additionally, never underestimate the power of gratitude. Expressing thanks for any advice, time, or support offered reinforces the value you place on the relationship and contributes to its growth and sustainability. Adhering to these principles of networking etiquette can significantly enhance your ability to build and maintain valuable professional relationships.

By implementing these strategies, you can build and maintain a network of professional relationships that are both broad and deep, providing a foundation for mutual support, collaboration, and advancement in your academic career.

Challenges and Solutions in Networking

Networking, while invaluable, can present a set of challenges that may deter individuals from engaging fully in these activities. Below are common obstacles and strategic solutions to overcome them, complemented by a summary table for quick reference.

Challenge	Solution 👍
Introversion	Leverage online platforms for initial connections; attend smaller, focused events where possible.
Time Management	Schedule regular, dedicated times for networking activities; prioritize quality of connections over quantity.
Overcoming Rejection	View each rejection as a learning opportunity; adjust approaches based on feedback; maintain resilience.

Introversion and Networking. Many individuals find the prospect of networking daunting due to introversion. The key is to find networking methods that align with one's comfort level. Online networking platforms can provide a less intimidating avenue for introverts to initiate and maintain professional connections. Additionally, attending smaller, more focused events or setting up one-on-one meetings can make the process feel more manageable and personal.

Time Management. Balancing networking with other professional responsibilities can be challenging. Effective time management is crucial; setting aside specific times for networking activities can help. Additionally, focusing on the quality of connections rather than the quantity ensures that time spent networking is productive and fulfilling. Using tools like social media management apps or scheduling software can streamline the process and make it less overwhelming.

Overcoming Rejection. Rejection is an inevitable part of networking and career development. It's important to not take it personally and to use it as a learning experience. Reflect on any feedback provided, and use it to refine your approach in the future. Persistence and resilience are key; remember that networking is a long-term investment in your career, and every interaction, successful or not, contributes to your growth and understanding of the professional landscape.

By addressing these challenges proactively and employing the suggested strategies, individuals can enhance their networking effectiveness and overcome obstacles that might otherwise hinder their professional development and career advancement opportunities.

Reaching seniority: Multitasking, team building and project management

As academics progress in their careers, the transition to senior roles brings a new set of challenges and responsibilities. From managing multiple projects simultaneously to leading teams and mentoring the next generation, the demands are diverse and require a broad skill set. This section delves into the essential skills for achieving and thriving in senior academic positions, incorporating insights from John Ziman's concept of "post-academic science" to highlight the evolving nature of these roles.

Multi-tasking and Prioritizing in an Academic Environment

In the academic sphere, the ability to multitask and prioritize effectively is not just a skill but a necessity. Amidst the myriad of roles and responsibilities, a one-size-fits-all approach to managing tasks falls short. Drawing inspiration from productivity strategies, one notable suggestion for academics is to organize tasks by the distinct roles they play within their professional life. This method acknowledges the unique challenges of academia, where one may simultaneously wear the hats of a researcher, educator, and administrator. Here we would like to introduce the idea of roles by Cal Newport. To navigate the complex landscape of academic responsibilities, it's beneficial to categorize tasks according to the specific roles an academic might hold. This could include, but is not limited to, roles such as "Teaching," "Research," "Service," and "Administration." Each role encompasses a distinct set of tasks and priorities. For example, under Teaching, tasks might include preparing lectures, grading, and meeting with students. Research could involve conducting experiments, writing papers, and applying for grants. By segmenting tasks in this manner, academics can focus more clearly on the needs and priorities of each aspect of their work, making the overwhelming manageable. In the following table we include an example on how this might look like. This structured approach allows for a clearer overview and prioritization of tasks, enabling academics to allocate their time and resources more effectively. By distinguishing tasks by role, one can also better navigate the ebbs and flows of the academic calendar, prioritizing research during quieter teaching periods, for example, and vice versa.

Role	Task	Status
Teaching	Prepare lecture on genetics	In Progress
	Grade midterm exams	Pending
Research	Submit paper to journal	To Do
	Apply for research grant	In Progress
Service	Review conference submissions	To Do

To make the most of this system, digital tools that allow for easy categorization and status updates are recommended. Applications such as Trello or Asana can be particularly useful, offering visual organization and the flexibility to adjust as tasks evolve. Beyond mere organization, this role-based system encourages strategic thinking about one's work, prompting academics to consider not only what needs to be done but also the broader impact and alignment of these tasks with their professional goals.

Implementing a role-based to-do list system can transform the way academics approach their diverse responsibilities. By providing structure and clarity, it enables them to navigate their multifaceted roles with greater confidence and efficiency, ensuring that all aspects of their professional life receive the attention and dedication they require.

Principles of Effective Mentoring

Effective mentoring is crucial in academia, fostering growth, encouraging innovation, and building strong professional communities. Here are the top ten principles that underpin effective mentoring within academic settings:

1. **Establish Clear Objectives:** Define the goals of the mentoring relationship from the outset. Both mentor and mentee should have a clear understanding of what they hope to achieve, whether it's career advice, research guidance, or skill development.
2. **Foster Mutual Respect:** A successful mentoring relationship is built on mutual respect. Mentors should respect the mentee's aspirations and challenges, while mentees should respect the mentor's experience and time.
3. **Practice Active Listening:** Effective mentors listen more than they speak. Understanding the mentee's perspective, challenges, and goals is crucial for providing relevant and meaningful guidance.
4. **Encourage Independence:** The ultimate goal of mentoring is to empower mentees to make their own decisions and develop their own solutions. Encouraging independence fosters growth and confidence in mentees.
5. **Provide Constructive Feedback:** Feedback is a cornerstone of effective mentoring. It should be honest, specific, and constructive, aimed at encouraging improvement and learning.
6. **Be a Role Model:** Mentors should exemplify the qualities they wish to instill in their mentees, such as integrity, dedication, and curiosity. Leading by example is one of the most powerful tools in a mentor's repertoire.
7. **Encourage Networking:** Introduce mentees to a broader network of professionals. Expanding their network can open up new opportunities and perspectives, enhancing their professional development.
8. **Adapt to Changing Needs:** The needs of mentees can evolve over time. Effective mentors are flexible and adapt their guidance to meet these changing needs, providing support that is relevant and impactful.
9. **Maintain Confidentiality:** Trust is essential in a mentoring relationship. Mentors should keep discussions confidential, providing a safe space for mentees to share their thoughts and concerns.
10. **Commit Time and Energy:** Effective mentoring requires time and dedication. Regular meetings and consistent support are essential for developing a meaningful and productive mentoring relationship.

Implementing these principles can significantly enhance the mentoring experience for both mentors and mentees, contributing to a culture of continuous learning and development within the academic community.

- **Define Clear Objectives:** Begin with a clear understanding of your research goals and objectives. This clarity will guide your planning, execution, and evaluation phases.
- **Develop a Detailed Plan:** Break down your research project into manageable tasks, assign responsibilities, and set deadlines. A detailed plan helps in tracking progress and identifying potential bottlenecks early.
- **Regular Monitoring and Adaptation:** Regularly review your project's progress against the plan. Be prepared to adapt your strategies in response to new findings or unforeseen challenges.
- **Effective Communication:** Ensure ongoing communication with all team members and stakeholders. Clear communication prevents misunderstandings and ensures everyone is aligned with the project goals.
- **Utilize Project Management Tools:** Leverage project management tools tailored to research needs. These tools can help in organizing tasks, facilitating collaboration, and tracking progress.

Project Management for Researchers: Tools and Strategies

Effective project management is vital for researchers to navigate the complexities of their projects, from inception to publication. It involves planning, executing, and overseeing research activities to ensure they are completed efficiently and effectively. This section outlines key strategies for project management in research and highlights tools that can facilitate these processes.

Tool	Features	Cost
Trello	<ul style="list-style-type: none"> - Kanban boards for task management - Collaborative features - Integrations with other tools 	Free, with premium plans available
Asana	<ul style="list-style-type: none"> - Task and project organization - Timeline view for deadlines - Multiple project views (list, board, calendar) 	Free, with premium plans available
Microsoft Project	<ul style="list-style-type: none"> - Detailed project planning - Resource management - Built-in reporting tools 	Paid
Zotero	<ul style="list-style-type: none"> - Reference management - Collaborative research features - Integration with word processors 	Free

Slack	<ul style="list-style-type: none"> - Team communication and collaboration - File sharing - Integration with other project management tools 	Free, with premium plans available
GitHub	<ul style="list-style-type: none"> - Version control for collaborative writing and coding - Issue tracking - Project boards 	Free, with premium plans available
Google Drive	<ul style="list-style-type: none"> - File storage and sharing - Collaborative document editing - Integration with Google Workspace tools 	Free, with premium plans available

Activities and Assignments

Career Strategy Plan

A self-evaluation career strategy template is a structured approach for individuals to assess their professional progress, identify strengths and weaknesses, and plan for future development. This process involves reflecting on past experiences, achievements, and challenges to set realistic career goals and devise strategies to achieve them. The template guides the individual through a comprehensive review of their career path, encouraging introspection and proactive planning. It serves as a tool for personal and professional growth, ensuring that career decisions are aligned with one's values, interests, and long-term objectives. By regularly completing a self-evaluation, professionals can maintain a clear focus on their career trajectory, adapt to changes in their field, and identify opportunities for advancement and skill development.

1. Career Objectives:

Short-Term Goals (1-2 years):

Long-Term Goals (5+ years):

2. Achievements:

List key accomplishments since the last evaluation:

Skills acquired and areas of improvement:

3. Challenges Encountered:

Describe significant challenges faced and how they were addressed:
Lessons learned from overcoming these challenges:

4. Skills and Competencies:

Rate your proficiency in key skills relevant to your field (e.g., technical, leadership, communication):

Identify areas for development and potential resources for improvement:

5. Professional Development:

Training programs attended or certifications obtained:

Future learning opportunities of interest:

6. Career Satisfaction:

Assess your current job satisfaction (e.g., responsibilities, work environment, balance):

Areas of improvement for increased job satisfaction:

7. Networking and Professional Relationships:

Evaluate the state of your professional network:

Plan for expanding your network (e.g., industry events, online platforms):

8. Feedback Received:

Summarize feedback received from peers, supervisors, and mentees:

Actionable steps based on feedback:

9. Future Opportunities:

Opportunities for advancement or new roles of interest:

Strategies to position yourself for these opportunities:

10. Action Plan

Specific steps to achieve your short-term and long-term career goals:

Timeline and milestones for evaluating progress:



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Block 4:

Bibliographic management with Zotero



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This Zotero course provides a solid foundation on the use of bibliographic software to optimize reference and citation management in scientific publications. Through a detailed introduction, it emphasizes the importance of bibliographies as pillars in the construction of scientific knowledge, highlighting the practice of citing as a crucial component in scientific literature. It underscores the need to adhere to specific norms and style manuals, such as Vancouver, APA, Chicago, and Harvard, for the standardization and normalization of bibliographies. Additionally, it discusses the indispensable role of bibliographic management software, like EndNote, Mendeley, RefWorks, and Zotero. In particular, Zotero stands out for its open-source nature, its ability to automatically detect references on web pages, and its wide range of functionalities including information organization, integration and citation, remote access, and document analysis. Through basic resources and guided practices, such as installing Zotero Connector, generating bibliographies, and integrating with Word and Google Docs, this course promises to equip users with the necessary tools to efficiently manage their academic references, thus optimizing their academic research process.

Characteristics:

- Bibliographic Management Software
- Using Zotero
- Delivery: Tutorials and Hands-on Sessions

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Index

Index	1
Introduction	2
Bibliographic software	2
Why Zotero?: functionalities	3
Learning Zotero	5
Websites	5
Youtube	5
Practising Zotero	6
Zotero connector	6
Generating Bibliographics	6
Word and Google docs integration	7
Zotero online	7
Readings	7



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Introduction

Bibliographic software

The bibliography in scientific publications is a fundamental pillar in the construction of knowledge, serving not only as a tool to give due recognition to previous work but also as an essential way to support and contextualize new research within the academic field. In this regard, the practice of citing becomes a crucial component in scientific literature, where each inquiry begins with a thorough review of the existing literature. This detailed analysis allows researchers to place their contributions within the current state of knowledge, highlighting both previous contributions and the existing gaps in their field of study. Moreover, citations and bibliographic references fulfill multiple purposes: from recognizing and honoring the intellectual labor of other scientists to facilitating the verification of the data and arguments used. However, the primary reason for citing transcends these pragmatic aspects, lying in the aspiration to integrate the new research within a broader network of scientific knowledge. By doing so, not only is the rigor and credibility of the current research reinforced, but a continuous and constructive dialogue within the scientific community is also promoted, thus ensuring the collective progress towards understanding and solving complex problems. In short, bibliographies are not only testimonies of diligence and research ethics but also catalysts for scientific advancement.

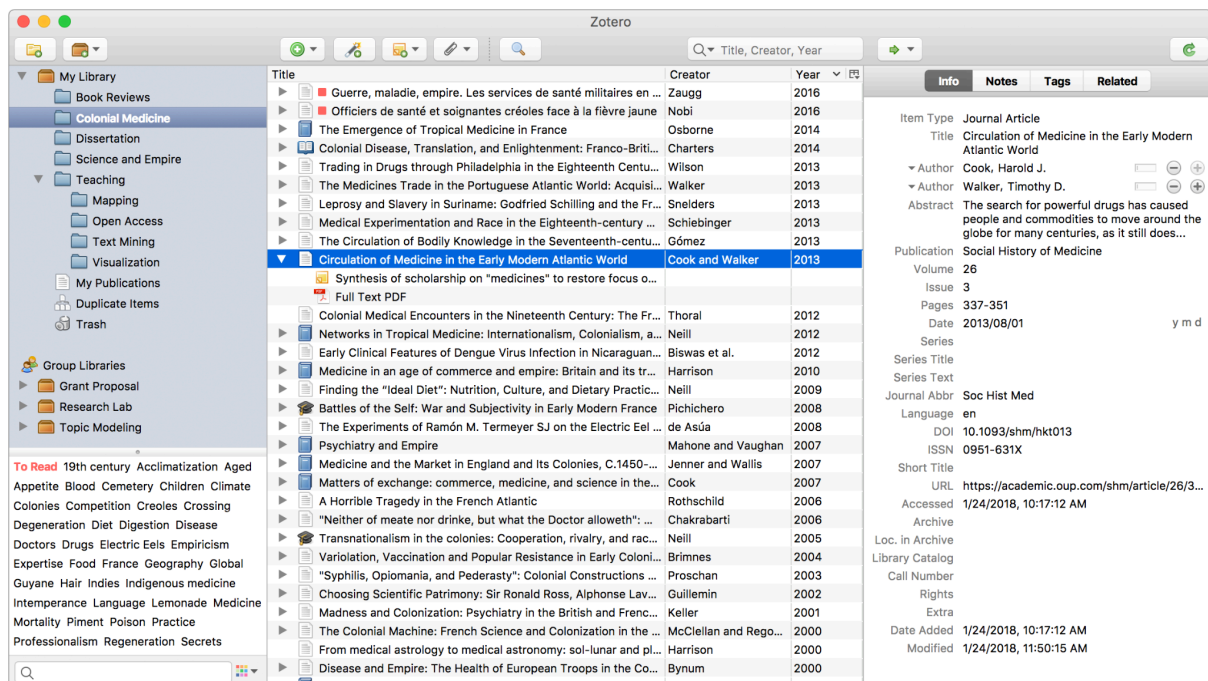
In the process of generating scientific bibliographies, two fundamental aspects play a crucial role: adherence to specific norms and style manuals, and the use of bibliographic management software. On one hand, norms and style manuals, such as Vancouver for medicine, APA for psychology, Chicago for certain areas of the humanities, and Harvard for a wide range of disciplines, provide a framework for citing sources and compiling bibliographies in a standardized and normalized manner. These guidelines ensure uniformity and facilitate comprehension among researchers from different fields, allowing scientific contributions to be presented clearly and accessibly. On the other hand, bibliographic reference software emerges as an indispensable tool for the modern researcher. These applications allow for the automatic addition of articles, facilitating the easy collection of metadata from all types of publications, organizing works into folders and projects, and the automatic generation of bibliographies. Their integration with word processors enables the smooth citation of works and the creation of bibliographies tailored to the desired norm without additional effort. The professional use of these programs is fundamental for scientific work, optimizing the time dedicated to documentation and improving the quality and accuracy of bibliographic references. This dynamic and structured approach to bibliography generation not only increases researchers' efficiency but also ensures coherence and rigor in the presentation of their studies.

Bibliographic management is crucial for academics and researchers, facilitated by specialized software that shares basic functions such as importing references and generating bibliographies. However, each has unique features that set them apart:

- **EndNote** ([website](#)🌐): Known for its ability to customize and handle large-sized libraries. It is particularly useful for researchers with extensive collections of documents, offering advanced search and filtering tools, as well as options to customize citation styles.
- **Mendeley** ([website](#)🌐): This software stands out for its social component, allowing for the sharing of references and documents, and online collaboration. It integrates PDF reading and annotation functionalities, in addition to offering cloud storage space, facilitating remote access and shared bibliography management.

- **RefWorks** ([website](#)): Its main advantage is direct integration with databases and research platforms, allowing for seamless reference importation. Compatible with various academic information sources, RefWorks also supports online collaboration and is accessible from any internet-connected device.
- **Zotero** ([website](#)): Distinguished by its ability to automatically detect references on web pages and add them to the personal library with a click. Zotero is ideal for the rapid collection of internet sources, offering browser plugins and word processor integrations, which ease the insertion of citations and the creation of bibliographies in documents. Its community focus and open-source nature make it very popular in the academic field.

Why Zotero?: functionalities



Zotero, recognized for being an open-source bibliographic management software, offers a variety of functionalities designed to optimize the organization, handling, and citation of bibliographic references. Its free nature and the active participation of a community of developers and users ensure its constant evolution and the inclusion of innovative features. Grouping its functionalities logically.

We can highlight the following functionalities

Collection and Organization of Information

- **Automatic collection with Zotero connector**: Allows capturing bibliographic information from multiple online sources with a single click, facilitating the addition of references to the personal library.
- **Addition of records using DOI and other standardized numbers**: Imports references accurately using identifiers like DOI, ensuring the accuracy of bibliographic data.
- **Resource management through folders**: Organizes references into customized collections for better management and access according to themes or projects.

Integration and Citation

- **Integration with Word and Google Docs plugins:** Enables inserting citations and generating bibliographies directly in text documents, supporting multiple citation styles.
- **Generation of bibliographies in multiple standards:** Zotero offers the flexibility to create bibliographies adjusted to various citation norms.

Synchronization and Remote Access

- **Synchronization with Zotero Online:** Facilitates access and management of the Zotero library from any device with an Internet connection.

Analysis and Notes

- **Integration with a PDF Reader that allows highlighting:** Enhances the analysis of documents by allowing annotations and highlights in stored PDFs.
- **Ability to generate notes:** Supports the creation of notes linked to specific references, ideal for organizing ideas and comments during research.

Compatibility and Exportation

- **Exports to multiple formats:** Zotero allows exporting libraries or references in different formats, facilitating compatibility with other tools and platforms.

Additional Functionalities

- **Global search:** Searches for keywords within the entire library, including the content of PDFs, making it easier to find relevant information.
- **Tagging of references:** Allows adding custom tags to references for more efficient classification and retrieval.
- **Creation of group bibliographies:** Ideal for collaborative work, allows creating and sharing libraries with other Zotero users.
- **Extractable metadata function:** Automatically extracts metadata from imported PDFs, reducing the time needed to add new references.
- **Compatibility with research management systems:** Integrates with academic and research platforms, simplifying the workflow for researchers.

Zotero stands out not only for its ability to facilitate bibliographic management but also for its adaptability to the needs of researchers, academics, and students, establishing itself as a comprehensive tool in the research field.

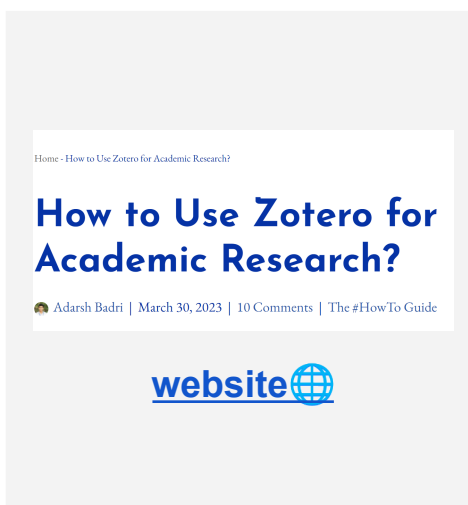
The logo for Zotero, featuring the word "zotero" in a lowercase, sans-serif font. The letter "z" is red, and the remaining letters "otero" are black.

Learning Zotero

Through the following basic resources, we're going to learn how to use Zotero. We have selected three essential resources: first, a web page guide that will allow us to understand the fundamental features of Zotero; then, two YouTube tutorials that serve as an introduction and, subsequently, a more comprehensive and detailed video.



We invite you to carefully read the guide and watch both videos. Afterward, in the next section, we will propose a series of activities designed to initiate you into the world of Zotero. This practical and theoretical approach will equip you with the necessary tools to efficiently manage your academic references and citations, optimizing your academic research process.

Websites



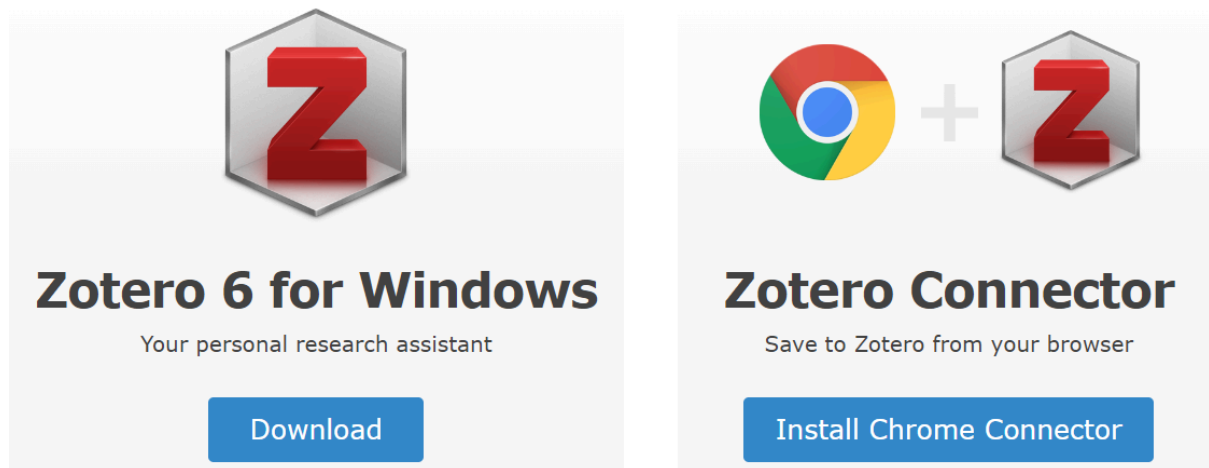
In the "How to Use Zotero for Academic Research?" tutorial by Adarsh Badri, students are guided through the intricacies of using Zotero, a premier open-source tool designed for managing academic references and citations. This detailed walkthrough, based on Badri's firsthand experience since his academic journey at Jawaharlal Nehru University in 2022, emphasizes Zotero's pivotal role in academic research. It highlights its capabilities for extracting citations from PDFs, organizing articles thematically, and integrating citations into Word documents. The tutorial provides a step-by-step guide on managing and uploading files to Zotero, and elaborates on the ease of citing using the platform. By showcasing how to navigate multiple citation styles and merge duplicate files among other functionalities, Badri aims to equip students with the knowledge to leverage Zotero's full potential in streamlining their research process, making academic life significantly more manageable and efficient.

Youtube

<h3>How To Use Zotero (A Complete Beginner's Guide)</h3>	<h3>How To Use Zotero 2024 (Including Zotero Connector) - Full Tutorial With Examples</h3>
<p>website  12 Minutes</p>	<p>website  24 Minutes</p>

Practising Zotero

Once you have completed the tutorials on how to use Zotero for academic research, we recommend installing Zotero on your computer in its desktop version. This step is crucial for beginning to effectively practice the functionalities explored in the tutorials, allowing you to familiarize yourself with comprehensive bibliographic reference management. Experiment with collecting data through the Zotero Connector, generating bibliographies in different citation formats, and integrating Zotero with word processing tools like Word and Google Docs. Additionally, take advantage of synchronizing your library via Zotero Online to access your resources from anywhere. These practices will help you consolidate your knowledge and maximize your efficiency in organizing your academic research.



Zotero 6 for Windows
Your personal research assistant
[Download](#)

Zotero Connector
Save to Zotero from your browser
[Install Chrome Connector](#)

[website](#) 

Zotero connector

- **Description:** Install the Zotero Connector in your favorite browser and explore its capability to capture references from various web sources. Practice by navigating to academic journals, online bookstores, and news websites. Use the connector to add at least five diverse references to your Zotero library, ensuring you include a mix of articles, books, and web pages. Pay attention to how the connector automatically detects and imports bibliographic information, like authors, titles, and publication dates. Reflect on how this feature streamlines the initial stages of research by efficiently gathering necessary citations.

Generating Bibliographics

- **Description:** Utilize your Zotero library to create a bibliography. Select a small set of references and experiment with Zotero's bibliography generation feature. Try out different citation styles such as APA, MLA, and Chicago, to observe how each format presents the references differently. Modify some reference details (e.g., author names, titles, publication years) in your Zotero library, then regenerate the bibliography to see how these changes are reflected. This exercise will help you understand the flexibility and accuracy of Zotero in managing bibliographic details according to various academic standards.



Word and Google docs integration

- **Description:** Install the Zotero plugins for Microsoft Word and Google Docs. Draft a short test document in each word processor and insert citations using Zotero. Explore the functionalities offered by Zotero within these tools, such as inserting citations, changing citation styles, and automatically updating the bibliography as you add or remove citations. Assess which integration (Word or Google Docs) better suits your workflow and why, providing insights into how Zotero can enhance academic writing across different platforms.

Zotero online

- **Description:** Access your Zotero library via the web version. Familiarize yourself with the online functionalities, including viewing your library, editing references, and creating research groups. Compare the user experience between the desktop application and the web version. Attempt to synchronize your library across multiple devices, highlighting the significance of remote access to your references. This exercise aims to illustrate the advantages of Zotero's cloud capabilities, ensuring your bibliographic data is accessible and up-to-date, regardless of your location or the device you are using.

Readings

- Bryan Jenks (Director). (2023, noviembre 6).  **Zotero Research Paper Workflow | Full Comprehensive Setup Guide** . <https://www.youtube.com/watch?v=m-J-v0JdL3w>
- David S. Murphy, Ph.D. (Director). (2022, septiembre 23). **Zotero: Tips & Tricks**. <https://www.youtube.com/watch?v=bxA9yzN857I>
- Dominic Ramos (Director). (2022, octubre 2). **Zotero // PRO Tips for Beginners**. <https://www.youtube.com/watch?v=zBonyXEjHog>
- GomiTV (Director). (2023, marzo 26). **How Zotero can help your literature review task**. https://www.youtube.com/watch?v=OeVsfSc_ZE0
- Ireland, T., & Zientarska-Kayko, A. (2023). **Unlocking the power of Zotero: Innovative case studies from the University of Waterloo**. <https://ir.lib.uwo.ca/wcse/WSCETwentyTwentyThree/fri-july-14/4/>
- **Quick_start_guide [Zotero Documentation]**. (s. f.). Recuperado 26 de marzo de 2024, de https://www.zotero.org/support/quick_start_guide
- **Zotero Forms: Recent Discussions**. (2024, marzo 25). Zotero Forums. <https://forums.zotero.org/discussions>
- Russell, R. (s. f.). **LibGuides: Google & Google Scholar: Exporting to Zotero**. Recuperado 26 de marzo de 2024, de <https://ketchum.libguides.com/google/zotero>
- **Zotero | Your personal research assistant**. (s. f.). Recuperado 26 de marzo de 2024, de <https://www.zotero.org/>



Block 5:

Scientific Writing Techniques



UNIVERSIDAD
DE GRANADA

Block 5, focusing on "Scientific Writing Techniques," equips students with the essential skills needed to effectively communicate complex scientific ideas through writing. This module delves into the intricacies of crafting clear, concise, and impactful scientific documents, covering key aspects such as the IMRAD structure, the importance of choosing appropriate titles, abstracts, and keywords for visibility, and the judicious use of figures and tables to complement textual information. Students learn to navigate the nuances of authorship, avoiding common disputes, and ensuring their work is original, novel, and unpublished. The module prepares students to produce publishable research articles, enhancing their ability to contribute significantly to the scientific community.

Characteristics:

- Structure of academic texts
- Fundamentals of Academic Writing
- Effective Communication of Complex Ideas

Nicolas Robinson-Garcia
Universidad de Granada

Index

Index	2
PART I. Before you start writing	3
The Purpose of Academic Publishing	3
The Scientific Communication System	3
Types of Scientific Publications	5
PART II. Writing the Paper	8
General Notes on Style and Structure	8
The IMRAD Structure	11
Figures and Tables	12
EPILOGUE	13
Publishable and Non-Publishable Topics	13
Authorship and collaboration	14
Preparing a Manuscript for Submission	15
Additional Resources	16

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PART I. Before you start writing

The Purpose of Academic Publishing

Academic publishing is the final, crucial step in the research journey. It is where studies and discoveries are shared with the world, making it an essential part of academic work. Without publishing, research remains unseen and untested, floating in academic limbo. It is the process of making findings public and subjecting them to peer review that truly completes the research cycle.

Publications act as the academic seal of approval. They allow other researchers to scrutinize, challenge, and build upon findings, ensuring that only robust, reliable research gains recognition. This peer review process is what keeps the scientific method honest and progressive. Through publishing, new discoveries are introduced to the academic community and beyond, fostering innovation and inviting further exploration. They signal that a piece of work has passed rigorous evaluation and contributes valuable knowledge to its field. This not only helps in advancing the discipline but also in cementing the researcher's contribution to the ever-expanding body of global knowledge.

We can summarize the role played by publications in the following:

- **Validation of Research.** They ensure that research findings have undergone rigorous peer review, affirming their reliability and accuracy.
- **Dissemination of Knowledge.** Publications spread new discoveries and insights across the global academic community, facilitating access to the latest research.
- **Foundation for Further Research.** They serve as a critical resource for other researchers to build upon, sparking innovation and further exploration in various fields.
- **Academic Recognition.** Publishing in respected journals provides researchers with recognition, enhancing their reputation and contributing to their career advancement.
- **Educational Resource.** Publications are a vital resource for teaching, offering up-to-date information and examples to inform and inspire students.
- **Benchmarking Current Research.** They help in mapping the current state of research in various disciplines, identifying trends, gaps, and areas ripe for exploration.

These roles underscore the integral position of academic publishing within the research ecosystem, facilitating the growth of knowledge and fostering an environment of continuous scholarly dialogue and development.


The Scientific Communication System

The journey of scientific communication has been a long and transformative one, evolving significantly from its nascent stages to the complex and dynamic system we observe today. This evolution has been marked by key developments, each shaping the way knowledge is shared and built upon within the academic community. Initially, the dissemination of scientific knowledge was predominantly through books. These were often comprehensive treatises on

particular subjects, written by individual scholars or philosophers and responded to a lifetime's work.

The birth of scientific journals marks a pivotal moment in the evolution of academic communication, transitioning from the solitary pursuit of knowledge documented in books and personal letters between scholars, to a more communal and systematic dissemination of research. Prior to the mid-17th century, scholarly communication was largely informal, rooted in the exchange of letters and the publication of comprehensive books that often reached a limited audience due to their sheer volume and cost. This era was characterized by a fragmented scientific community where insights and discoveries remained circumscribed within narrow scholarly circles, impeding the widespread advancement of knowledge.



The establishment of the *Journal des Sçavans* in France and the *Philosophical Transactions* of the Royal Society in England in 1665 revolutionized this landscape by formalizing the sharing of scientific knowledge. These journals served as platforms for the timely dissemination of research findings, leveraging the printing press to reach an audience far beyond the immediate geographic and social confines of their authors. The creation of these journals responded to a growing demand for a more efficient and accessible means of communication among scholars, enabling the rapid spread of new ideas and fostering a collaborative scientific environment that transcended national borders. Through the regular publication of research findings, scientific journals facilitated a level of scrutiny and peer engagement previously unattainable, laying the groundwork for the modern academic publishing system .

As scientific journals gained prominence, the structure of academic papers began to evolve towards the now-standard IMRAD format ( *see Part II for more on IMRAD*), a shift that mirrored the journals' emphasis on clarity, replicability, and rigorous scientific method. This evolution underscored the journals' role in not just publicizing research, but in establishing a framework for the presentation and evaluation of scientific work. The introduction of the peer review system further solidified the credibility and reliability of published research, ensuring that only work meeting a certain standard of quality and originality reached the public domain. This critical appraisal by fellow experts became a cornerstone of academic integrity and a key differentiator of scholarly journals from other forms of publication.

The formal adoption of the peer review process as a systematic mechanism for evaluating scientific work before publication began to take shape in the mid-20th century. While the concept of peer review can be traced back to the editorial practices of early scientific journals in the 17th century, it wasn't until the 20th century that peer review became an established and essential component of the academic publishing process. Specifically, the peer review system as we know it today, involving anonymous reviewers providing critical feedback on manuscripts prior to publication, gained prominence in the years following World War II. This period saw a significant increase in scientific research activity and the subsequent need for rigorous quality control mechanisms in publishing.

The advent of Open Access in the late 20th and early 21st centuries marked another significant shift, challenging the traditional subscription-based model by advocating for free, unrestricted access to research findings. While Open Access has democratized the availability of scientific knowledge, it has also introduced new challenges, particularly regarding the sustainability of publishing models and the mechanisms for ensuring the quality of openly available research. Despite these challenges, the foundational role of scientific journals in facilitating the verification, publicization, and ratification of new discoveries remains unchanged, continuing to shape the landscape of academic and scientific inquiry .

The Open Access movement began gaining significant momentum in the late 20th and early 21st centuries. One of the key moments in the formalization and spread of the Open Access movement was the Budapest Open Access Initiative (BOAI), which was launched in 2002. This initiative provided a clear definition of Open Access and outlined strategies for its implementation, marking a pivotal moment in the movement towards freely accessible scholarly communication.


 YEAR	 MAIN MILESTONES
1665	Publication of the first scientific journals: Journal des Sçavans in France and Philosophical Transactions of the Royal Society in England.
1843	Establishment of the Chemical Society of London, introducing the model of a scientific society publishing its own journal.
Late 17th to Early 20th Century	Gradual evolution towards the IMRAD structure in academic papers.
1950s and 1960s	Development of citation indexing and the Science Citation Index by Eugene Garfield, introducing a systematic way to evaluate the impact of scientific publications.
1991	Launch of the arXiv preprint server, facilitating early access to research findings in physics and later other fields.
1990s	Transition of print journals to online platforms, marking the beginning of the digital age for academic publishing.
Mid-20th Century	Formal establishment and widespread adoption of the peer review system as a standard practice in academic publishing.
2002	Launch of the Budapest Open Access Initiative (BOAI), formalizing the principles of Open Access and promoting the free availability and unrestricted use of research.

Types of Scientific Publications

Scientific publications come in various forms, each designed to fulfill specific scholarly needs and contribute uniquely to the research ecosystem. Among the most common types of academic publications are case studies, empirical studies, literature reviews, theoretical studies, and systematic reviews. Each type plays a crucial role in academic research, offering different perspectives, methodologies, and insights that enrich the academic discourse. While we will be mainly focusing on empirical studies (also known as research

articles), here we give a brief overview of the most common types and provide some examples.

Case Studies

 **Definition:** Case studies are in-depth investigations of a single person, group, event, or community over a period of time. They are used to explore complex issues in real-life contexts, where multiple sources of evidence are used to illuminate dimensions of the subject being studied.


Main Characteristics:

- Focus on an individual case rather than a population or sample.
- Offer detailed contextual analysis of a limited number of events or conditions and their relationships.
- Employ a variety of data sources, such as documents, artifacts, interviews, and observations.
- Often exploratory, descriptive, or explanatory in nature.
- Useful in generating hypotheses and building theory.

Examples:

- Corley, E. A., Boardman, P. C., & Bozeman, B. (2006). *Design and the management of multi-institutional research collaborations: Theoretical implications from two case studies*. *Research policy*, 35(7), 975-993.
- Robinson-Garcia, N., Costas, R., Nane, G. F., & van Leeuwen, T. N. (2023). *Valuation regimes in academia: Researchers' attitudes towards their diversity of activities and academic performance*. *Research Evaluation*, 32(2), 496-514.

Review Articles

 **Definition:** Literature reviews survey scholarly articles, books, and other sources relevant to a particular issue, area of research, or theory, providing a critical evaluation of these works in relation to the research problem being investigated.

Main Characteristics:


- Summarize and synthesize the existing literature on a topic.
- Identify gaps or inconsistencies in a body of knowledge.
- Establish the context and significance of a research problem.
- Do not involve original empirical research but rely on existing works.
- Serve as a foundation for new research by highlighting areas for further investigation.

Examples:

- Alonso, S., Cabrerizo, F. J., Herrera-Viedma, E., & Herrera, F. (2009). *h-Index: A review focused in its variants, computation and standardization for different scientific fields*. *Journal of informetrics*, 3(4), 273-289.
- Northey, J. M., Cherbuin, N., Pumpa, K. L., Smeed, D. J., & Rattray, B. (2018). *Exercise interventions for cognitive function in adults older than 50: a systematic review with meta-analysis*. *British journal of sports medicine*, 52(3), 154-160.

- Thomas, D. A., Nedeva, M., Tirado, M. M., & Jacob, M. (2020). *Changing research on research evaluation: A critical literature review to revisit the agenda. Research Evaluation, 29(3), 275-288.*

Theoretical Studies

 **Definition:** Theoretical studies focus on developing, exploring, or testing the theories that contribute to a deeper understanding of the world. These studies are not based on direct empirical evidence but use existing research and logical reasoning to build conceptual frameworks.


Main Characteristics:

- Concerned with establishing and exploring theories.
- Use deductive reasoning to apply theoretical propositions to specific instances.
- May involve the formulation of models or hypotheses that can be tested empirically by others.
- Aim to expand or refine theoretical constructs.
- Contribute to the conceptual underpinnings of research fields.

Examples:

- Etzkowitz, H., & Leydesdorff, L. (2000). *The dynamics of innovation: from National Systems and "Mode 2" to a Triple Helix of university–industry–government relations. Research policy, 29(2), 109-123.*
- Alchian, A. A. (1950). *Uncertainty, evolution, and economic theory. Journal of political economy, 58(3), 211-221.*
- Gardner, H., & Hatch, T. (1989). *Educational implications of the theory of multiple intelligences. Educational researcher, 18(8), 4-10.*

Empirical Studies

 **Definition:** Empirical studies involve the collection and analysis of data through direct observation or experimentation to test hypotheses or answer research questions. **These studies are fundamental to generating new knowledge based on empirical evidence.**

Main Characteristics:

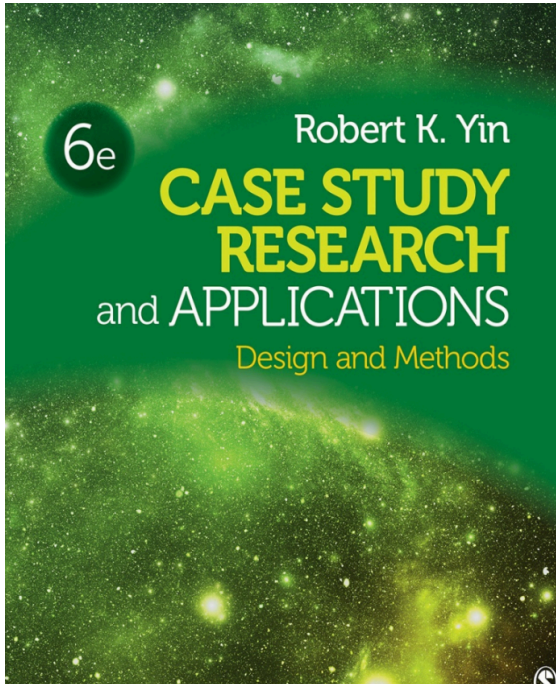
- Rely on systematic collection and analysis of data.
- Can be qualitative, quantitative, or mixed-methods in approach.
- Aim to test a hypothesis or explore a phenomenon through direct or indirect observation and measurement.
- Results are often statistically analyzed to infer patterns or outcomes.
- Empirical evidence is central to the study's conclusions.

Examples:

- Way, S. F., Morgan, A. C., Larremore, D. B., & Clauset, A. (2019). *Productivity, prominence, and the effects of academic environment. Proceedings of the National Academy of Sciences, 116(22), 10729-10733.*
- Eysenbach, G. (2011). *Can tweets predict citations? Metrics of social impact based on Twitter and correlation with traditional metrics of scientific impact. Journal of medical Internet research, 13(4), e2012.*

- Torres-Salinas, D., Rodríguez-Sánchez, R., Robinson-García, N., Fdez-Valdivia, J., & García, J. A. (2013). Mapping citation patterns of book chapters in the Book Citation Index. *Journal of informetrics*, 7(2), 412-424.

Extra reading



1) "Case Study Research and Applications: Design and Methods" by Robert K. Yin is a comprehensive guide to the intricacies of case study research.

2) The book lays out the foundation, emphasizing the need for well-formulated research questions and propositions.

3) It details various case study designs, including single-case and multiple-case studies, highlighting their unique applications and challenges.

4) Yin discusses data collection techniques, ranging from interviews to archival records, ensuring thorough and valid research.

5) The importance of maintaining validity and reliability through methodical design and analysis is underscored.

6) The book includes practical examples, showcasing the versatility of case studies across different disciplines.

7) Yin provides readers with the tools necessary for designing, conducting, and reporting case study research, making it an essential resource for researchers and scholars.

PART II. Writing the Paper

General Notes on Style and Structure

Successful scientific writing is based on the power to present complex ideas with clarity and precision. It is an art that marries meticulous research with the elegance of clear expression, aiming not just to inform, but to engage and persuade. Effective scientific writing transcends the mere presentation of facts and figures; it tells a story, weaving a narrative that guides readers through a journey of discovery. It demands a balance between detail and brevity, ensuring that each word serves a purpose. In crafting such pieces, writers not only contribute to the vast tapestry of scientific knowledge but also inspire future inquiries, fostering a culture of continuous exploration and learning.

As all arts, mastering scientific writing requires discipline and training. In the following pages we will share some techniques and strategies we have developed along years of experience in academic writing that we hope may help you. But remember that only by constant trial and error you will be able to develop your own academic writing style.

In the words of Stephen King:

“If you want to be a writer, you must do two things above all others: read a lot and write a lot. There’s no way around these two things that I’m aware of, no shortcut.”

— Stephen King,  [On Writing: A Memoir of the Craft](#)



Scientific writing is characterized by its rigor, but also its cleanness. Similar to journalistic writing, the focus must always be on the story. Look at these three sentences:

- a) My beloved parent has joined the heavenly choir
- b) My dear father has passed away
- c) My father has died
- d) My old man has kicked the bucket

While they all refer to the same phenomenon, you can clearly see how style defines the readability and interpretation of the sentence. Of course, an appropriate scientific style would encourage option c over the others due to its concision and distance from the fact reported.

SIX ELEMENTARY RULES ON WRITING

- 1) **Never use a metaphor, simile or other figure of speech which you are used to seeing in print**
- 2) **Never use a long word where a short word will do**
- 3) **If it is possible to cut out a word, always cut it out**
- 4) **Never use the passive where you can use the active**
- 5) **Never use a foreign phrase, a scientific word or a jargon word if you can think of an everyday English equivalent**
- 6) **Break any of these rules sooner than say anything outright barbarous**

— George Orwell,  [Politics and the English Language](#)



Now some practical tips:

1. Start your papers straight to the point and as clear and precise as possible

2. Avoid passive Better first person in plural or even, in singular

3. The research article is cyclic **INTRO** - presents a problem to be solved **DATA AND METHODS** - Proposes a way to solve it. **FINDINGS** - Reports what happened once the proposed solution was applied. **DISCUSSION** - Assess if the findings were satisfactory. **CONCLUSIONS** - Ends up with the response to the problem solved and suggests further lines of enquiry

4. Structure your paper The best way to start a paper is by creating a detailed structure of the paper. Do not only indicate the sections, but even their length, number of paragraphs, contents for each paragraph and potential figures and tables.

5. Take time designing figures and tables Use them with wisdom and dedicate time editing them.

6. Search for inspiration When you read other people's works, do not only look into their contents, but also pay attention to their presentation and style.

7. Tell a story Specially when editing your text, think on which are the main messages readers should keep after reading your paper.

8. Simplify Make use of simple English and cut out as many unnecessary words as possible.

9. Listen to Stephen King King describes himself as a working-class writer. He does not pursue literary greatness, but readers' engagement. Learn from him → **RESILIENCE** - **SPORTSMANSHIP** - **SELF-CRITICISM** - **AMBITION**

10. Edit, edit and edit Write for yourself, but revise and edit thinking on the reader: Restructure, simply, eliminate unnecessary words....

The IMRAD Structure

The IMRAD structure, an acronym for Introduction, Methods, Results, and Discussion, stands as the foundational architecture of scientific writing, offering a clear, logical framework that mirrors the scientific method itself. This structure facilitates a seamless narrative flow, guiding readers from the conceptual genesis of the research question through to the nuanced interpretation of results.

In the **Introduction**, the writer sets the stage, articulating the research problem, its significance within the broader scientific landscape, and the specific objectives or hypotheses of the study. This section answers the "why" of the research, engaging readers with the study's rationale and its potential contributions to knowledge.

The **Methods** section delves into the "how" of the study, providing a detailed account of the experimental design, procedures, and analytical techniques employed. Clarity and precision here allow the research to be reproducible, a core tenet of scientific inquiry. This part not only serves to validate the study's findings but also enables other researchers to replicate or build upon the work.

In the **Results** segment, the researcher presents the outcomes of the study, typically through an objective exposition of data, supported by tables, figures, and statistical analysis. This section is the factual core of the manuscript, where the data speak, untainted by interpretation.

The **Discussion** weaves together the threads of the research narrative, interpreting the results in the context of the original hypothesis and the wider field. It's where the implications of the findings are explored, limitations are acknowledged, and potential directions for future research are suggested. This section bridges the specific study with the broader scientific dialogue, highlighting its relevance and potential impact.

Adhering to the IMRAD format not only enhances the clarity and coherence of scientific manuscripts but also aligns with the expectations of the scientific community, facilitating peer review, publication, and dissemination of research findings. This structured approach democratizes scientific knowledge, making it accessible and actionable to a global audience of researchers, practitioners, and policymakers, thereby advancing the frontiers of science and its application in society.

SECTION	WRITING STYLE
Introduction + Lit. Review	Past or present perfect
Methods + Results	Past or present
Results + Discussion	Present or present perfect

Figures and Tables

In research articles, figures and tables play a crucial role in summarizing and presenting data clearly and efficiently. Figures should be used to depict complex patterns, trends, and relationships visually, making them immediately apparent to the reader. Tables are best suited for presenting raw data and facilitating direct comparisons between datasets. Both should be self-explanatory, with concise, descriptive titles and legends that provide sufficient context for understanding without referring back to the main text. They must be referenced within the text, directing readers to view them at relevant points in the discussion.

Furthermore, the information provided in these figures and table should be easily interpretable without context and should not reiterate previous content.

Feature	Figures	Tables
Purpose	Visualize data trends, patterns	Present raw data, facilitate comparison
Design	Clean, uncluttered, color use for clarity	Organized, labeled columns/rows
Context	Include legends, sufficient for standalone understanding	Include descriptive titles, footnotes for clarification
Reference	Clearly referenced in the text	Clearly referenced in the text

Creating figures for scientific papers requires tools that can handle complex data and present it in a visually accessible manner. Below is a table listing ten software options useful for this purpose, including both free and paid versions. These tools cater to a range of needs, from simple diagrams to detailed scientific illustrations and complex data visualizations.

SOFTWARE	LINK	PRICING
BioRender	BioRender.com	Paid (Free Trial)
Inkscape	inkscape.org	Free
Adobe Illustrator	adobe.com/products/illustrator	Paid

GIMP	gimp.org	Free
Tableau Public	public.tableau.com	Free
GraphPad Prism	graphpad.com	Paid
Microsoft PowerPoint	microsoft.com	Paid
OriginLab	originlab.com	Paid
PyMOL	pymol.org	Paid (Free for Educational Use)
RStudio	rstudio.com	Free

Each software offers unique features tailored for scientific research, ranging from vector drawing capabilities and photo editing to statistical analysis and interactive visualization. When selecting a tool, consider the specific needs of your research and publication, such as discipline-specific standards, the complexity of the data, and your own familiarity with the software.

EPILOGUE

Publishable and Non-Publishable Topics

For a research topic to be considered publishable, it must embody three cardinal characteristics: originality, novelty, and being previously unpublished. These criteria ensure that the research contributes meaningfully to the existing body of knowledge, offering insights or discoveries that advance understanding within a field.

Originality refers to the requirement that the work presents a unique perspective, approach, or findings. It doesn't necessarily have to cover a completely unexplored topic; instead, it can offer a new angle on existing research, challenge established theories, or present new evidence that prompts a reevaluation of current understandings. Original research fills gaps in the literature, addresses unanswered questions, or employs innovative methodologies to explore well-trodden paths, thus contributing valuable new insights to the academic discourse.

Novelty demands that the research introduces ideas, data, or techniques that are not just original but also significantly advance the field. Novel research shifts paradigms, opens new lines of inquiry, or presents unexpected connections between previously disparate areas. For a topic to be novel, it must go beyond merely adding to existing knowledge; it must transform understanding in a way that could lead to new applications, theories, or methodologies.

Novelty captures the essence of scientific progress—pushing the boundaries of what is known and exploring the unknown territories of human knowledge.

Unpublished status is critical because the scientific community values the primacy and exclusiveness of research findings. For research to be considered for publication, it must not have been previously published in any peer-reviewed journal or public platform that offers copyright protection. This criterion ensures that the academic record remains clear and accurate, preventing the dilution of scientific contributions through redundancy. It also upholds the integrity of the scientific process, ensuring that each published work adds new knowledge to the scholarly repository without duplicating content.

Together, these three characteristics form the bedrock of publishable research. They ensure that academic publications maintain their role as vehicles of innovation and discovery, driving forward the frontiers of science and scholarship.

Authorship and collaboration

Authorship in scientific publishing denotes the attribution of contribution to individuals who have played a significant intellectual role in the conception, design, execution, or interpretation of a research project. The assignment of authorship is pivotal in recognizing the contributions of researchers and is often used as a metric for academic achievements. However, the determination of authorship can become a contentious issue, leading to disputes and conflicts within research teams. Disagreements may arise over the order of authors, the inclusion or exclusion of contributors, and the perceived magnitude of each individual's contributions.



RECOMMENDATIONS TO AVOID CONFLICT AND AUTHORSHIP DISPUTES

1. **Agree from the start on how the workload and authorship will be distributed.** Clear delineations of responsibilities and expectations can prevent misunderstandings later on.
2. **Try to avoid including too many authors.** Limit authorship to those who have made significant contributions to ensure clarity and fairness.
3. **Be honest with yourself.** Reflect on your own contributions realistically to avoid overestimating your role.
4. **Be rigorous but flexible when collaborating between teams.** Acknowledge the dynamic nature of research projects and be willing to adjust agreements as the project evolves.
5. **If it's the first collaboration, observe customary signing practices.** Understanding established norms can guide expectations and practices.

6. **Discuss matters directly, even if it is uncomfortable.** Open communication about contributions and expectations can resolve many potential conflicts before they escalate.
7. **Stay calm and avoid toxic environments.** A constructive and respectful dialogue is more likely to result in amicable resolutions.
8. **Document your work to have a record of contributions.** Keeping detailed records can provide clear evidence of contributions if disputes arise.
9. **Avoid the inclusion of ghost authors as much as possible.** Ensure that everyone listed as an author has made a substantial contribution.
10. **Be grateful to those who contributed but are not authors.** Acknowledge non-author contributors in the acknowledgments section to recognize their efforts.

Following the recommendations above can help maintain harmonious relationships within research teams, ensuring that the process of scientific publishing is both fair and transparent, thus preserving the integrity of the scholarly record.

Preparing a Manuscript for Submission

Preparing a manuscript for submission to a scientific journal is a crucial step in the publication process, requiring meticulous attention to several key components: the title, abstract, and keywords. These elements are pivotal in ensuring that your work is discoverable, engaging, and accessible to the intended audience. Here's how to approach each of these components effectively:

Title, Abstract, and Keywords

Title: It should be concise and to the point, yet engaging enough to capture the reader's attention. Think of it as the first impression your paper makes, akin to ethical clickbait. Titles can be:

- **Informative:** Direct and descriptive, e.g., "Map of synthetic rescue interactions for the Fanconi anemia DNA repair pathway identifies USP48."
- **Explanatory:** Offers insight into the content or methodology, e.g., "Planning a title: Practices and preferences for titles with colons in academic articles."
- **Engaging:** Designed to pique curiosity, e.g., "The unbearable emptiness of tweeting – About journal articles."
- **Intriguing:** Provokes thought or questions, e.g., "What is an emerging technology?"

Abstract: This brief summary is often the most widely read part of your paper and should accurately reflect its structure and content. Invest time in crafting an abstract that is both informative and reflective of your study's significance.

Keywords: Choose terms that are essential for making your paper retrievable by potential readers. Conduct searches on platforms like Google Scholar to identify relevant terms that should be included in your work.

Tips:



- Performing keyword searches can help ensure your manuscript is easily discoverable.
- Dedicate time to writing a compelling abstract, as it may be the only section some readers engage with.

Journal Formats and Templates

Understanding the target journal or academic community early in the writing process is beneficial. This knowledge can guide the tone, writing style, and format of your manuscript. Different journals might have specific formatting guidelines:

Examples of Journal Formats:

-  [PNAS](#)
-  [Plos One](#)
-  [The New England Journal of Medicine](#)
-  [Research Policy](#)

Some journals provide templates for article submission, such as Latex (via  [Overleaf](#)) or Rmarkdown (via  [Rticles](#)), facilitating the formatting process. While not always mandatory, using these templates can streamline the preparation of your manuscript for submission.

By adhering to these guidelines and investing time in crafting each component of your manuscript carefully, you enhance the visibility, appeal, and accessibility of your research, maximizing its potential impact within the scientific community.

Additional Resources

- Check out this [COVER LETTER](#) and use it as a template for your own submissions if needed
- Here you have an example of [response to reviewers](#) which can also be used if needed. Look how each question posed is responded in detail. It includes a general response to the editor and then specific responses to each of the comments made by the reviewers



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Stratégies Numériques pour la Formation Doctorale
en Sciences Humaines et Sociales en Tunisie ■■■

Block 6:

Publishing and Impact Strategy



UNIVERSIDAD
DE GRANADA



Erasmus+

"Publishing and Impact Strategy" is the final, comprehensive block of the course, focusing on strategies for successfully publishing research in high-impact journals. This unit offers a deep dive into the selection process for suitable journals, ensuring alignment with research topics and target audiences. It also covers adherence to rigorous publication standards and the nuances of the peer-review process. Crucially, the unit provides techniques for enhancing the visibility and impact of research papers, such as effective use of digital platforms and academic networks. This module is essential for researchers seeking to navigate the intricate and competitive landscape of scientific publishing, aiming to maximize the dissemination and influence of their work.

- **Journal Selection Strategies**
- **Adherence to Publication Standards**
- **Enhancing Research Visibility and Impact**

Wenceslao Arroyo Machado
Universidad de Granada

Index

Index	1
Introduction	2
Publishing with impact	2
Impact at the source level	4
What is an impact journal?	4
Materials	6
Advantages and disadvantages	6
Aspects to consider when publishing	7
Journal selection	8
Predatory journals	9



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Introduction

Publishing with impact

In the academic realm, the importance of publishing with impact extends far beyond the mere dissemination of research findings. Traditionally, the impact of scholarly work was gauged almost exclusively through citation counts and journal impact factors, metrics that have long stood as benchmarks for academic excellence and the influence of research within a field. Citation counts reflect the frequency with which a work is cited by other scholars, thereby indicating its resonance and utility in advancing understanding within a particular discipline. Similarly, the impact factor of a journal, calculated based on the average number of citations received by its articles over a certain period, has been used as a proxy for the journal's prestige and the quality of work it publishes. These traditional metrics have guided many aspects of academic career advancement, from tenure decisions to the allocation of research funding, reinforcing a narrow conceptualisation of impact centred around scholarly recognition and the propagation of knowledge through academic citations.

However, the digital age has ushered in a paradigm shift towards a more nuanced understanding of impact, embracing a diversity of metrics that extend beyond citations and impact factors. Altmetrics, or alternative metrics, have emerged as pivotal in capturing the broader influence of research by accounting for social media mentions, blog posts, news coverage, and other digital footprints that research leaves in its wake. This evolution acknowledges that the impact of research is not confined to academic circles but resonates across society, influencing public discourse, policy-making, and industry practices. Moreover, the distinction between visibility and impact has become clearer; visibility relates to the positioning and presence of research within both academic and public domains, enhancing its accessibility and potential to reach a wider audience. In contrast, impact refers to the tangible influence research has on the academic community and society at large, shaping future studies, informing educational content, and contributing to societal change. This broader perspective on impact recognises the multifaceted nature of research influence, appreciating both its scholarly contributions and its capacity to effect real-world change.

DORA 	THE METRIC TIDE 	LEIDEN MANIFESTO 
 <p>DORA advocates for broadening research assessment criteria beyond journal-based metrics</p>	 <p>Leiden Manifesto emphasizes principles for responsible use of metrics in research evaluation</p>	 <p>The Metric Tide advocates for a balanced approach to metrics, integrating qualitative and quantitative measures</p>

Positioning in the academic sphere refers to the strategic placement and visibility of research within the broader scientific community and public domain, aiming to enhance its accessibility, engagement, and impact. Unlike traditional forms of academic positioning, which rely heavily on publication in high-impact journals or presentations at prestigious conferences, the concept draws parallels with Search Engine Optimization (SEO) in the digital marketing realm. SEO focuses on optimizing content to rank higher in search engine results, thereby increasing visibility and traffic to a website. Similarly, academic positioning involves optimizing the discoverability and appeal of research outputs across various platforms and media, ensuring that they reach a wider audience, including both peers and the public. This strategy encompasses the use of keywords, abstracts, social media dissemination, and open access repositories, mirroring SEO's emphasis on keyword relevance and web presence to attract and engage audiences. However, while SEO aims to enhance website visibility and user engagement for commercial gains, academic positioning strives to maximise the scholarly and societal impact of research, highlighting the symbiotic relationship between visibility and influence in the digital age.

The screenshot shows a Google Scholar search for 'wikipedia citations' with approximately 298,000 results. The results list several articles with annotations:

- Article 1:** "Are Wikipedia citations important evidence of the impact of scholarly articles and books?" by K Kousha, M Thelwall. A thumbs-up icon is next to the title. A callout box shows a snippet: "... The results show that citations from Wikipedia, with the most in one citation from Wikipedia, with the most in".
- Article 2:** "Wikipedia citations: A comprehensive analysis of citations extracted from English Wikipedia" by H Singh, R West, G Colavizza. A callout box shows a snippet: "... 261 thousand citations with DOIs from Crossref. As a result, we find that 0.7% of Wikipedia articles cite at least one journal article with an associated DOI, and that Wikipedia cites just 2...".
- Article 3:** "[HTML] Methodological issues in measuring citations in Wikipedia: a case study in Library and Information Science" by A Pooladian, A Borrego. A thumbs-down icon is next to the title. A callout box shows a snippet: "... and 2010 in Wikipedia, paying special attention to the methodological issues involved in ...".
- Article 4:** "[HTML] References that anyone can edit: review of Wikipedia citations in peer reviewed health science literature" by MD Bould, ES Hladkovicz, AAE Pigford, LA Ufholz. A callout box shows a snippet: "... Wikipedia citations are used. We aimed to evaluate the prevalence of Wikipedia citations in ... that publish articles with Wikipedia citations, and determine how Wikipedia is being cited. ...".

Annotations include a thumbs-up icon, a thumbs-down icon, and a question mark icon. A callout box also displays a bar chart from a search result.

It is not enough to publish; it is also necessary to have a strong digital presence and ensure access to research

In the dynamic landscape of academic research, understanding and maximizing the impact of your work is crucial for both career advancement and societal contribution. Impact can be categorized into several types, each with its distinct focus and measurement metrics. The following table outlines three primary types of impact. It provides a brief description of each, related metrics that quantify these impacts, and strategies for maximizing visibility and engagement within and beyond the academic community.

IMPACT LEVEL	DESCRIPTION	RELATED METRICS	HOW TO MAXIMIZE
SOURCE	Reflects the prestige and influence of the publishing source.	JIF, SJR	Publish in high-impact journals, consider the reach and audience of the journal, select journals relevant to your field.
PUBLICATION	Measures the reach and attention received by a specific article or piece of research.	Citations	Ensure your research addresses current topics of interest, use clear and engaging titles and abstracts, promote your work through academic and social networks.
SOCIAL	Assesses the influence and engagement outside traditional academic circles, capturing the impact on society.	Altmetrics	Engage with the public through social media, blogs, and public talks; make your research accessible (open access, summaries for lay audiences); collaborate with practitioners and policymakers.

Impact at the source level

What is an impact journal?

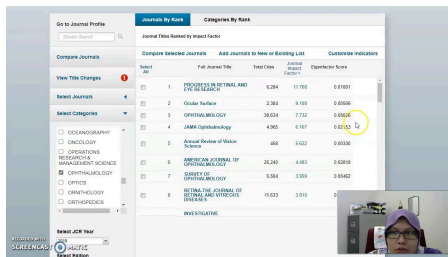
The landscape of academic publishing is inherently competitive, with researchers striving to place their work in journals of high reputation and influence. At the heart of this competition lies the Journal Impact Factor (JIF), a metric that has dominated the evaluation of journal prestige for decades. Originating from the work of Eugene Garfield in the 1960s, the JIF is calculated by averaging the number of citations received in a given year by articles published in a journal during the two preceding years. This metric serves as a proxy for the journal's relative importance within its field, influencing where researchers choose to publish, institutions' hiring decisions, and the allocation of research funding. Despite its pivotal role, the JIF has been subject to scrutiny and criticism for its potential to skew research priorities and for its simplistic approach to measuring impact, which overlooks the quality and context of citations.

In response to these limitations, alternative metrics such as the SCImago Journal Rank (SJR) have emerged, offering a more nuanced assessment of journal impact. The SJR leverages a weighted citation network to account for the prestige of the citing journal, thereby aiming to provide a more equitable measure of a journal's influence. Unlike the JIF, which treats all citations equally, the SJR assesses the quality of citations, introducing a level of sophistication to the evaluation of journal prestige. This evolution from a single, citation-based metric to a range of evaluative tools reflects the academic community's ongoing quest for more accurate and comprehensive methods to assess the impact and quality of scholarly work.

IMPACT	JCR quartile	SJR quartile	CiteScore quartile
TOP	Q1		
MID TOP	Q2	Q1	Q1
MID LOW	Q3	Q2	Q2
LOW	Q4	Q3	Q3
NO impact		Q4	Q4

Despite the emergence of diverse evaluative metrics and indicators in academic publishing, the impact of the journal, often represented by metrics such as the Journal Impact Factor (JIF) and SCImago Journal Rank (SJR), remains an indispensable consideration for researchers and institutions. While the academic community acknowledges the importance of viewing journal impact within a broader context of other indicators to gain a holistic understanding of research influence, the undeniable truth is that high-impact journals often command greater visibility and reach. Publishing in journals with a high JIF or SJR not only signifies the quality and rigour of the research but also inherently boosts the work's visibility amongst peers and the wider academic community. This increased exposure can, in turn, catalyse other forms of impact, including enhanced citation rates, wider dissemination across academic and professional networks, and even influence on policy and practice. The prestige associated with high-impact journals acts as a multiplier, amplifying the reach and potential engagement with the research, thereby facilitating broader scholarly conversations and contributing to the advancement of the field. In this context, the impact of the journal serves not merely as a badge of honour but as a strategic asset in the dissemination and recognition of scholarly work, underscoring the interconnected nature of journal impact and broader research influence.

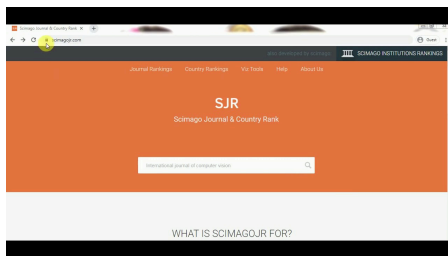
Materials



Rank	Journal Title	Total Cites	Journal Impact Factor	Quartile
1	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES	6,284	11.703	Q1
2	Science	2,261	9.103	Q1
3	OPTICAL BIOLOGY	38,034	7.732	Q1
4	JAMA Ophthalmology	4,365	6.167	Q1
5	British Review of Medical Science	463	5.023	Q1
6	AMERICAN JOURNAL OF OPHTHALMOLOGY	25,240	4.493	Q1
7	DIETARY AND NUTRITIONAL JOURNAL	5,584	3.993	Q1
8	INTERNATIONAL JOURNAL OF EPIDEMIOLOGY	11,023	3.915	Q1

How to find journal quartile and impact factor us...

Description: This video will help researchers, doctors, university students find the suitable journal for their scientific manuscript submission.



Journal Quality Check using Scimago || Scimag...

Description: This video explains how to find the ranking of a selected journal using Scimago. Scimago is a tool which is used for the ranking of a journal means the quality of a journal with the H index value, the country rankings and institution rankings also can be checked. If a journal is listed in Scimago that means it is indexed in Scopus, and if a journal is listed in master journal list that means it is indexed in Web of Science.

Advantages and disadvantages

Publishing in high-impact journals comes with a set of advantages and disadvantages that researchers need to carefully consider when deciding where to submit their work for publication.

ADVANTAGES

Increased visibility and reach

Articles published in high-impact journals are more likely to be read and cited by the academic community, enhancing the visibility of the researcher's work.

Recognition and prestige

Publishing in prestigious journals is often seen as an indicator of the quality and significance of the research, which can raise the researcher's profile within their field.

Enhanced career opportunities

Academics who publish in high-impact journals frequently find that it opens up more opportunities for career advancement, including better job offers, promotions, and grant prospects.

Networking opportunities

High-impact journals often have a wide and influential readership, which can facilitate

DISADVANTAGES

Competitive submission process

The high demand for publication slots in these journals means the submission process is extremely competitive, leading to lower acceptance rates.

Longer review times

Due to the volume of submissions and the rigorous review process, it can take significantly longer for an article to be reviewed and published.

Potential for narrow focus

Some high-impact journals may prioritise certain types of research or methodologies, which could discourage innovative or interdisciplinary research that doesn't fit their criteria.

Pressure and stress

The pressure to publish in high-impact journals can contribute to stress, especially

networking opportunities with leading scholars in the field.

Impact on policy and practice

Research published in prominent journals is more likely to influence policy and practice, given its wider dissemination and the perceived credibility of the publication outlet.

for early-career researchers and those working in highly competitive fields.

Risk of misinterpretation of impact

There is a danger that the emphasis on journal impact factors can lead to the misinterpretation of the actual significance and quality of individual research articles.

Aspects to consider when publishing

When aiming to publish in academic journals, several key aspects must be meticulously managed to ensure optimal impact and recognition of your work. These elements not only influence how your research is perceived but also play a crucial role in maintaining clarity and integrity in the publication process.

Normalized name

Consistency in the author's name across publications is crucial for accurate attribution and researcher identification. Utilize a standardized form of your name and consistently apply it across all research outputs to enhance discoverability and avoid confusion with other authors.

Number of collaborators and author position

The list and order of authors should be thoughtfully considered, reflecting each contributor's level of involvement and contribution. In disciplines where the author order signifies the extent of contribution, being closer to the first or last position can have significant implications for recognition and perceived contribution.

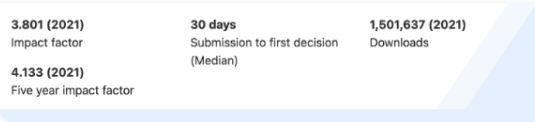
Declaration of contribution

The Contributor Roles Taxonomy (CRediT) offers a standardized way to represent author contributions transparently. It allows for the precise articulation of each author's contribution to the research, such as data curation, writing, experimentation, etc., fostering transparency and accountability in collaborative research.

Value of the corresponding author

The role of the corresponding author is pivotal, as this individual acts as the primary point of contact for the journal during the submission, peer review, and publication process. Beyond administrative duties, the corresponding author often plays a key role in coordinating the research team's efforts and ensuring compliance with ethical standards and submission guidelines. The designation of the corresponding author should be agreed upon by all co-authors, recognizing both the responsibility and the prestige associated with this role.

Journal selection

ASPECT	DESCRIPTION
CURRENT IMPACT POSITION	<p>Refers to the current impact metrics of the journal, such as the Journal Impact Factor (JIF) or SCImago Journal Rank (SJR).</p> 
IMPACT TREND	<p>Looks at whether the journal's impact is increasing, stable, or declining over time.</p> 
PUBLICATION SPEED	<p>The average time from submission to decision and, subsequently, from acceptance to publication.</p> 
JOURNAL FREQUENCY	<p>How often the journal publishes issues, such as monthly, quarterly, or annually.</p> 
EARLY ACCESS AVAILABILITY	<p>Whether the journal offers the option to publish articles online before they are included in a scheduled issue.</p> 

Predatory journals

Predatory journals are a growing concern in the academic community, characterized by their exploitation of the open-access model for their own profit. These journals often lack proper peer review processes, prioritizing revenue over scholarly integrity. They pose a significant problem because they dilute the quality of scientific literature, potentially tarnish the reputation of authors, and mislead researchers, particularly those early in their careers. Predatory publishers typically target unsuspecting authors with aggressive marketing tactics, promising rapid publication to entice manuscript submissions. The key to avoiding these disreputable journals lies in recognizing their common characteristics and conducting thorough checks before submission.

1. APC (Article Processing Charges) 💰

Predatory journals often hide or obscure their APCs, which tend to be significantly higher than those of reputable journals. A clear, upfront statement of fees is a hallmark of a trustworthy journal.

2. Review process 🕒

The main selling point of predatory journals - fast publication times - comes at the cost of a virtually nonexistent peer review process. A genuine journal will detail its review process, emphasizing the rigour and time taken for quality checks.

3. Impact indicators and indexes 🔍

Ensure the journal's claimed impact metrics are verified and traceable. Predatory journals might fabricate impact scores or misrepresent indexing statuses to appear more reputable.

4. DOAJ presence 🔒

Check if the journal is listed in the Directory of Open Access Journals (DOAJ), which lists credible open-access journals. Absence from DOAJ can be a red flag, suggesting the journal does not meet basic quality standards.

Preparing your manuscript for journal submission

Submitting an article to a journal is a critical step in the dissemination of research. A carefully prepared submission can enhance the chances of acceptance. Here are the key steps involved:

STEP	PROCESS	DESCRIPTION
1	Review the journal's submission guidelines	Each journal has specific guidelines regarding manuscript format, style, length, and submission process. These can include formatting of text, citation style, and structure of the manuscript. Familiarize yourself with these guidelines to ensure compliance, as failure to adhere can lead to immediate rejection.
2	Prepare your manuscript	Based on the journal's guidelines, prepare your manuscript. This includes structuring your article according to the specified format (e.g., IMRaD - Introduction, Methods, Results, and Discussion), ensuring your citations and references are correctly formatted, and following any specific requirements for tables, figures, and supplementary materials.
3	Ethical considerations	Ensure your research complies with ethical standards, including declarations of any conflicts of interest, ethics committee approval for studies involving humans or animals, and consent for publication if your manuscript includes any details, images, or videos that could identify an individual.
4	Choose the right Keywords	Select relevant keywords that accurately reflect the content of your manuscript. Good keywords increase the visibility of your article in database searches.
5	Write an effective Abstract	Your abstract should succinctly summarize the key findings and significance of your research, adhering to any word limit specified by the journal. An engaging and informative abstract can attract the attention of the editorial board and potential readers.
6	Prepare a cover letter	A cover letter introduces your manuscript to the journal editor. It should briefly outline the novelty and significance of your research, how it fits with the journal's scope, and why it will be of interest to the journal's readership. Mention if the manuscript is part of a special issue or if you're responding to a call for papers.

7	Select potential reviewers	Some journals allow or require you to suggest potential peer reviewers. Choose researchers familiar with your field but without close personal or professional connections to ensure an unbiased review process.
8	Final check and submit	Before submission, perform a final check of your manuscript and all accompanying documents for compliance with the journal's guidelines. Submit your manuscript through the journal's online submission system, which may require creating an account.
9	Confirmation and patience	After submission, you'll typically receive an email confirmation. The review process can be lengthy, so patience is crucial. Be prepared to respond to reviewers' comments and requests for revisions, if necessary.