

*Preprint*

# DRAGON KILL POINTS: APPLYING A TRANSPARENT WORKING TEMPLATE TO RELIEVE AUTHORSHIP STRESS

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**ABSTRACT** The concept of authorship, while straightforward in theory, proves to be remarkably complex in practice. While existing frameworks provide a foundation for classifying and ranking authorship roles, conflicts still arise when contributions are ambiguous or poorly documented. To address these issues, we propose Dragon Kill Points, adapted from multiplayer gaming, which tracks individual contributions to projects throughout their lifecycle. Dragon Kill Points is built around five key principles: granularity, responsibility, equity, autonomy, and transparency (GREAT). Granularity ensures detailed documentation of tasks, preventing underrepresentation of individual contributions. Responsibility is maintained by setting clear authorship criteria from the outset, allowing contributors to know how their work will be recognised. Equity ensures authorship rules apply to every team member, flattening hierarchies and highlighting ghost or gift authorship. Autonomy allows contributors to challenge or change their authorship position based on their contributions as the project progresses. Finally, transparency fosters trust by continuously sharing contribution records with the entire team. Through Dragon Kill Points, researchers can reduce conflicts, create more inclusive authorship practices, and acknowledge the true value of middle authorship positions. This system offers a flexible, scalable approach to managing authorship across various contexts, providing a solution to the complex challenges of collaboration.

**KEYWORDS** accountability; coauthorship; collaborative; credit; publishing; contributorship.

## 1. INTRODUCTION

*Acknowledgment is the greatest form of currency in the realm of human connection.*

- Anonymous

Research is like a quest to slay a dragon. Despite common folklore, you seldom go on this quest alone. But, when your team slays the dragon, how do you decide who deserves to reap the rewards? Is it just the person who delivered the final blow, or should others who contributed to the effort also be recognised—and how are different levels and types of contributions accounted for? These contentious considerations can lead to internal party frictions along the way, while in a research context, these same dilemmas can lead to authorship disputes (Heffner 1979; Albert & Wager 2003; Strange 2008; Bozeman & Youtie 2016).

Much of the stress around authorship arises from determining how each person contributed, assessing whether those contributions qualify them as authors, and then deciding how these contributions translate to authorship order. Authorship order is a common way to reward contributions (e.g., Gaeta 1999; Helgesson & Eriksson 2018; Konar 2021). However, when it comes to evaluating a researcher's "impact", not all positions are given the same value (Tscharntke et al. 2007; Dance 2012; Duffy 2017; Helgesson & Eriksson 2018; Konar 2021; Martins

et al. 2023; Owens & Simmonds 2024). As a result, authorship order is an increasingly contentious issue with the rise of multi-authored papers and the corresponding fall of single-authored ones (Marušić et al. 2011; Barlow et al. 2017; Guglielmi 2018; Osborne & Holland, 2019; Coles et al. 2022). Ideally, authorship order should reflect contributions in line with the conventions of a given field (Larivière et al. 2016; Helgesson & Eriksson 2018; Patience et al. 2019; Martins et al. 2023). However, you would be hard-pressed to find someone who has not been burned by this assumption—whether by believing their contributions deserved a higher position on the authors list or by feeling their efforts went unacknowledged (Pearson 2006; Sauermann & Haeussler 2017; Guglielmi 2018; Grossman & DeVries 2019; Herz et al. 2020).

Formal frameworks to acknowledge contributions have been developed, used, discarded, ignored, reinvented, and improved (e.g., Stamler 1979; Mouloupoulos et al. 1983; Winston 1985; Schmidt 1987; Hunt 1991; Digiusto 1994; Galindo-Leal 1996; Ahmed 1997; Kosslyn 2002; Sheskin 2006; Allen et al. 2014; Clement 2014; Marušić et al. 2014; Brand et al. 2015; Venkatraman 2016; Warrender 2016; Pierce et al. 2019; COPE 2020; Cooke et al. 2021; Ing 2021; Vasilevsky 2021; Matentzoglou et al. 2022; Borer et al. 2023; Coles et al. 2023; Hosseini et al. 2023; Martins et al. 2023; Nakagawa et al. 2023; Lin 2024). While these frameworks are a vast

### Dragon Kill Points Glossary

**Dragon:** A metaphor for the challenges or objectives tackled in a project. This could represent anything from solving a problem to conducting a large-scale experiment or finishing a final product.

**Dragonslayer:** An individual contributor to the project. This can be anyone who contributes to the project in any way.

**Dragon Kill Points:** A system to track participation during quests that ensures a fair distribution of loot, which can then be spent on rewards. Here it is adopted to track and quantify contributions throughout a project's lifecycle.

**Loot:** The tangible and intangible outcomes of a project, including rewards or recognition gained. Examples include the knowledge generated, the impact of the project, professional opportunities, or recognition within the community.

**Party:** The collaborative team working together on a project. It includes all individuals involved, regardless of their specific roles or contributions.

**Quest:** The overall endeavour or goal that the team is working towards.

improvement over not acknowledging author contributions at all, they are implemented after the project is completed, being used to justify, rather than create, the authorship list. We present a solution to this and several other problems using an idea borrowed from multiplayer gaming (Castronova & Fairfield 2006): tracking Dragon Kill Points from the start of the project to translate contributions into authorship positions for the modern day dragonslayers.

## 2. THE PROBLEM WITH THE CURRENT STATUS QUO

Quests to slay the dragons of today may no longer resemble those of mythology, but they still hold the power to transform lives through the records kept, the reputations built, and the loot divided. But what if the loot distribution is based on how shiny each dragonslayer's armour appears before the quest starts, rather than their actual deeds? And what if there was no agreement beforehand on what qualifies someone as a dragonslayer, and the rules are only created after the dragon has been slain? This may sound outlandish, but it parallels what modern-day dragonslayers face when it comes to academic authorship.

### 2.1 THE CURRENT SYSTEMS LACK GRANULARITY (G)

If contributions are only recorded in broad categories (e.g., directly fighting the dragon, keeping watch, setting up camp, etc.), we lose sight of each dragonslayer's specific efforts (e.g., performing these roles dutifully every day for 100 days versus once). In research, Contribution Roles Taxonomy (CRedit) consists of 14 broad roles (Allen et al. 2014; Brand et al. 2015; Holcombe 2019; categories summarised in Table 1) with the optional specification of the degree of contribution (as lead, equal, or supporting; Holcombe et al. 2020; ASNI/NISO 2022). However, the specification of the degree of contribution is seldom used (but see Martins et al. 2023) and remains a major shortcoming of how authorship contribution statements are

currently written (Weltzin et al. 2006; Resnik et al. 2015; Sauermann & Haeussler 2017; Cooke et al. 2021; Larivière et al. 2021; Teixeira da Silva 2021; Hosseini et al. 2023). New higher-resolution systems like Method Reporting with Initials for Transparency (MeRIT) appeal to this type of granularity because they allow authors' initials to be included alongside specific tasks within the manuscript itself (Nakagawa et al., 2023). MeRIT, however, is restricted to the methods section and does not capture a full range of contributions. Quests are comprised of multiple parts, not just the final act of slaying the dragon (Figure 1). Research is no different.

### 2.2 THE CURRENT SYSTEMS LACK RESPONSIBILITY (R)

If quest members do not know upfront what actions will qualify them for dragonslayer status, confusion and conflict will arise when it is time to assign titles later. In research, project contributors often lack clarity about what qualifies them for authorship or how their contributions will be weighted when assigning authorship positions (Marušić et al. 2014; Martins et al. 2023). Establishing a prenuptial collaboration agreement to outline authorship rules has been suggested as a way to prevent disputes later on (Tscharntke et al. 2007; Eggert 2011; Hess et al. 2015; Teixeira da Silva 2021; Borer et al. 2023; Kiermer 2023). However, while the prevalence of such agreements is unclear, it is likely that only a small fraction of research teams currently adopt this practice.

### 2.3 THE CURRENT SYSTEMS LACK EQUITY (E)

Without clear rules applied equally to everyone, some dragonslayers may receive undeserved credit or be overlooked entirely due to irrelevant factors. For example, the person with the most influence in the community may get credit even if they contributed very little or nothing (Maggio et al. 2019). Unfortunately, such behavior is not unheard of in academia, and much has been written about gift authorship (Flanagin 1998; Weltzin et al. 2006; Wislar et al. 2011; Hundley et

al. 2013; Whetstone et al. 2022). On the other end of the spectrum of unequitable authorship behaviours we have ghost authorship, where a person who significantly contributed is omitted from the author list (Weltzin et al. 2006; Wislar et al. 2011; DeTora et al. 2019; Whetstone et al. 2022; Hoekman & Rake 2024). Unsurprisingly, ghost authorship disproportionately affects early career researchers and those with less social capital (Heffner 1979; Gøtzsche et al. 2007; Bavdekar 2012; Andes & Mabrouk 2018). The current systems do not help alleviate either of these issues.

#### 2.4 THE CURRENT SYSTEMS LACK AUTONOMY (A)

If the quest leader is the only one who decides who gets the spoils and how much, nobody may dare to challenge their decisions. Further, if the eventual division of loot and glory is predetermined, dragonslayers cannot change their position as the quest progresses. In research projects, senior researchers hold the power (e.g., Martins et al. 2023) and established hierarchies or personal connections can determine authorship order (Liboiron et al. 2017). Authorship order is also subject to conventional expectations and early promises that are expected to be upheld, often ignoring changing circumstances (e.g., shifts in team member involvement, the addition or removal of tasks, or changes in roles and responsibilities over the course of the project; Vasilevsky et al. 2021). Solid evidence is needed to challenge authorship order. As such, there is no system for checks or balances, which can leave contributors unable to advocate for adjustments.

#### 2.5 THE CURRENT SYSTEMS LACK TRANSPARENCY (T)

Our dragonslaying endeavour can become a tangle of myths and legends to even those who are part of the quest. Most quest members can only see what others are doing as long as their activities are within their own field of vision. This is also true for research where even if someone has an overview of everyone's

contributions, that information is not openly and continuously shared with all the members of a project. Contributors often do not know how authorship decisions are made throughout the project and they are ultimately only presented with the finalised list of authors when the research is written up. Contributors have no way of knowing, in detail, how much others contributed, and how they compare (e.g., Martins et al. 2023). Thus, it is here that the opaqueness of working separately becomes an issue.

### 3. DRAGON KILL POINTS

#### 3.1 THE GREAT PRINCIPLES









Navigating our own experiences led us to consider and experiment with what an effective system for deciding authorship order might look like (e.g., Lagisz et al. 2024; Sanders et al. 2024; Figure 1). We propose that such a system should be based on five key principles: 1) **Granularity**: contributions need to be measured with finer detail than what current systems implement; 2) **Responsibility**: contributors should know upfront what qualifies them for authorship and how their contributions will be measured; 3) **Equity**: the rules should be applied consistently to everyone involved in a project; 4) **Autonomy**: contributors should have the ability to change or challenge their position in the authorship list, based on a record of contributions; and 5) **Transparency**: contributors should be informed throughout the project about their record of contributions, and potential position in the authorship list and how authorship decisions are being made. By applying these principles—granularity, responsibility, equity, autonomy, and transparency (GREAT)—we can move towards more inclusive authorship practices, especially when evaluating the value of middle authorship positions (Tscharntke et al. 2007; Mongeon et al. 2017; Helgesson & Eriksson 2019).

#### 3.2 THE FRAMEWORK AND TEMPLATES

To reduce the stress around authorship order



Example research synthesis project with the following potential tasks:

-  Conceptualisation
-  Literature review
-  Study registration
-  Data recording
-  Data verification
-  Manuscript drafting
-  Content editing
-  Finalisation

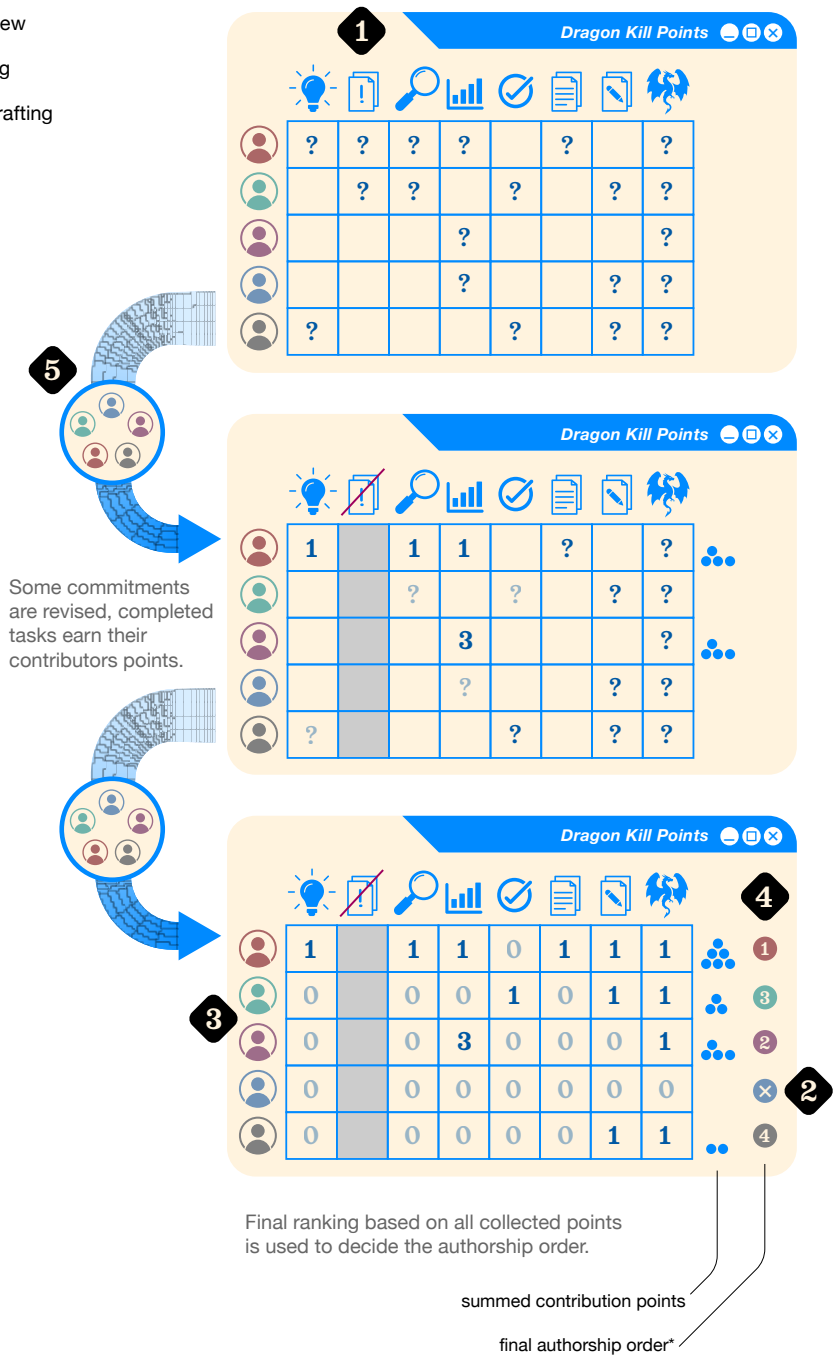


Potential authors entering the study

Initial planning, potential modifications of the list of tasks. Commitments of different contributors are still flexible.

**The GREAT principles of the Dragon Kill Points system**

- 1 Granularity**  
Breaking down contributions with precision
  - adjustable levels of detail
  - options to weight contributions
- 2 Responsibility**  
Setting expectations upfront
  - set minimum requirements for authorship
- 3 Equity**  
Applying the rules consistently
  - score contributions objectively
  - avoid metrics like hours worked
- 4 Autonomy**  
Empowering the contributors to manage their contributions
  - order is based on contributions
  - contributions are measurable
- 5 Transparency**  
Ensuring an open process
  - contributions are recorded
  - document is shared with the team



**FIG. 1.** Visualisation of the steps involved with implementing the Dragon Kill Points alongside the GREAT principles. Asterisk indicates final authorship order can vary depending on discipline.

decisions, we developed a simple and practical system called Dragon Kill Points, a term co-opted from video game culture (Castronova & Fairfield 2006). Dragon Kill Points tracks authorship

contributions in a way that, once in place, satisfies the five key principles we have outlined (Figure 1). Dragon Kill Points ensures granularity by allowing detailed breakdowns of contributions (Table 1), responsibility by establishing rules upfront, equity through consistent application of these rules to all involved, autonomy because authorship position is rewarded based on documented contributions and can be challenged accordingly (Figure 2), and transparency by keeping track of contributions and sharing it with all team members (Figure 1), and the final record can be made publicly available alongside the author contributions statement (Figure 1). Our experience so far has shown that Dragon Kill Points reduces conflicts over authorship by fostering an open, transparent dialogue surrounding contributions and authorship order from the outset of the project.

We provide several free templates to make the process straightforward and accessible. These templates are designed to help minimise equity issues around accessibility and can be customised for a variety of project types. The templates are available in multiple formats (e.g., PDF, Excel, and Google spreadsheets) and have been uploaded to several platforms to increase their accessibility: supplemental materials, GitHub, Center for Open Science, figshare, and Google Drive (links provided in data accessibility statement). Our templates cover the following types of projects to be adapted as needed: 1) fieldwork, 2) laboratory projects, 3) meta-science, 4) opinions and comments, 5) theoretical and modelling, and 6) a general template. This diversity ensures that regardless of the nature of your project, there is a framework in place to transparently and fairly assign authorship order for many fields.

#### 4. HOW TO MAKE DRAGON KILL POINTS DOABLE AND ACCEPTED: GUIDELINES FOR IMPLEMENTATION

Implementing Dragon Kill Points effectively requires attention to the GREAT principles—granularity, responsibility, equity, autonomy, and

transparency—that underpin its design (Figure 2). Here is how to structure the system in a way that promotes wide adoption and smooth operation, regardless of team size or project type.

##### 4.1 GRANULARITY (G): BREAKING DOWN CONTRIBUTIONS WITH PRECISION

The strength of Dragon Kill Points lies in its ability to provide fine-grained detail when documenting contributions.

- *Task breakdown:* Contributions should be divided into distinct and manageable pieces (Osborne & Holland, 2019; Cooke et al. 2021; Matentzoglu et al. 2022). This can range from major tasks (e.g., writing) to smaller but essential contributions (e.g., editing the manuscript), which could be further broken down to even finer detail (e.g., editing draft manuscript version 4.0).
- *Making the invisible visible:* Contributors can shed light on processes that might otherwise go unnoticed. This includes behind-the-scenes responsibilities, such as those conducted by supervisors or team leads that might otherwise never be seen by other team members.
- *Adjustable levels of detail:* While tasks can be broken down infinitely, it is important to strike a balance between detail and simplicity. Ensure that the process remains manageable without sacrificing the precision of contributions (e.g., yes/no option may be sufficient to record if someone edited the draft in any way rather than trying to capture the number of edits they made).
- *Weighted contributions:* Depending on the nature of the task, weights can be assigned to each contribution (Digiusto 1994; Martins et al. 2023). For instance, more complex or time-intensive tasks can be given higher weights, ensuring that contributors receive credit proportional to their efforts (e.g., editing the whole manuscript draft may carry more weight than writing an abstract).



**FIG. 2.** An imaginary quest with four party members. Not all party members contribute to all parts of the quest. **Top panel:** planning the quest (analogous to “conceptualization”). **Left panel:** setting up camp (analogous to “data collection”). **Right panel:** battling the dragon (analogous to “writing the manuscript”). **Bottom panel:** Party members (contributors) are shown from highest contribution (first) to lowest contribution (last). Final authorship order can vary depending on discipline. Blue circles are used to track contributions.

A method of recording contributions should be created at a project's outset (e.g., by adapting one of our templates). It should list each relevant task and its corresponding way of measuring and assigning weights, and can be refined iteratively as the project progresses (Figure 1).

#### 4.2 RESPONSIBILITY (R): SETTING EXPECTATIONS FROM THE OUTSET

For Dragon Kill Points to work effectively, clear guidelines must be established before a project begins (Smith & Master 2017). This helps avoid confusion and misunderstandings later on.

- *Initial discussions*: At the project's inception, teams should discuss and agree on how contributions will be recorded and how points will be assigned. This conversation ensures that everyone knows what is required for authorship and what factors (e.g., quality or quantity of work) will affect their position in the authorship order. This is also an opportunity to agree on set times to revisit discussions, whether at certain stages of the project, or monthly check-ins.
- *Naming an arbiter*: Teams should designate a person that is taking the lead on making the template and keeping track of contributions. While individuals can be responsible for inputting their own contributions, having one person leading this task can limit data entry errors. The arbiter can also help navigate any disagreements should they arise (e.g., have the final say, lead a democratic vote, etc.). In practice, we have found that the person leading the project is often best suited to this role.
- *Meaning of order*: Contributors should have a clear understanding of how Dragon Kill Points is used to determine authorship position, and this should be clearly stated in the author contribution statement in the resulting manuscript. For example, contributions may decline with order (termed “sequence-determines-credit” by Tschardt et al. (2007)),

be listed alphabetically for equal contributors (Weber 2018; Wohlrabe & Bornmann 2022; termed “equal contribution” by Tschardt et al. (2007)), or emphasis may be placed on the first and last author positions (termed “first-last-author-emphasis” by Tschardt et al. (2007)). Combinations of these approaches can be used too (e.g., “first-last-author-emphasis” and “sequence-determines-credit” for the middle authors).

- *Continuous dialogue*: Dragon Kill Points should not be a static process. It can and must change with different contexts and needs. Transparently revisiting the rules and expectations throughout the project encourages self-regulation and ensures that contributors are aware of any changes. This proactive approach leads to smoother collaboration and avoids conflicts related to not only missed or underestimated contributions but also the addition of previously unplanned contributors.
- *Field-specific flexibility*: When needed, authors can opt for not using Dragon Kill Points for specific positions (e.g., last author, corresponding author, etc.). This will allow for better integration of this system with current conventions across multiple disciplines (Helgesson & Eriksson 2018; Patience et al. 2019; Martins et al. 2023).

A responsible framework ensures that all contributors are on the same page from the outset, preventing surprises and animosity when the project concludes.

#### 4.3 EQUITY (E): APPLYING THE RULES CONSISTENTLY

Equity is critical to the success of Dragon Kill Points. The system should be designed in a way that ensures fair treatment for all contributors (i.e., creating equity through equality).

- *Consistent application of rules*: The same set of guidelines should apply to everyone, regardless of their position, experience, or

reputation. Equity should be prioritised by focusing on the quality and impact of contributions rather than arbitrary metrics (e.g., previous work history, status, etc.; Ponomariov & Boardman 2016). The distinction between equity and equality can be difficult when advocating for a system that applies the same criteria to everyone. The distinction is in whether or not the established hierarchy is maintained as a rule rather than as happenstance (e.g. Martins et al. 2023).

- *Careful attention to categories (Table 1):* Care should be taken not to favour or discriminate against certain individuals unintentionally when creating rules for measuring contributions (West et al. 2013; Fox et al. 2018; Uijtdehaage et al. 2018; Salerno et al. 2019; Larivière et al. 2021). Metrics that could lead to manipulation or bias (e.g., seniority or number of hours worked on a task) should be avoided (Ponomariov & Boardman 2016). Instead, the focus should be on quantifying the contributions, not the contributors themselves.
- *Moving towards objectivity:* When measuring contributions, try to avoid scoring contributions with difficult to define or subjective metrics. For example, the International Committee of Medical Journal Editors (2019) suggests including authors that have made a “significant contribution”, which is open to interpretation. Likewise, Martins et al. (2023) advocate for rating contributions along a spectrum from “major” to “minor”. These practices risk increasing inequities because of the subjective nature of rating (Street et al. 2010). Instead, we advocate for using less ambiguous metrics (e.g., counting the number of sections an author contributed to or the number of samples that they measured).
- *Gaming the system:* Dragon Kill Points is not immune to manipulation, but does allow for it to be more readily detected. Care should be taken to monitor and disincentivise such

opportunities. Self-reporting, as advocated by Martins et al. (2023), and maximising Dragon Kill Points through minimal effort are the easiest weaknesses to this system. Version histories of data and files can aid in regulating the first, while the second needs to be curtailed through well-considered metrics.

By fostering an environment where rules are applied consistently, teams can minimise inequitable outcomes, ensuring that authorship reflects true contributions.

#### **4.4 AUTONOMY (A): EMPOWERING CONTRIBUTORS TO MANAGE THEIR CONTRIBUTIONS**

Dragon Kill Points allows contributors to maintain some level of control over their authorship position by continuously engaging in the system throughout the project’s lifecycle.

- *Adjustable contributions:* Contributors should be able to alter their authorship rank through their contributions. If Dragon Kill Points are used to determine authorship order to some extent, authors should be able to “level up” their rank order (e.g., an author could process additional laboratory samples or draft figures for a final publication). This means that no single task should carry disproportionate weight such that exclusion from participating in it alone would override contributing to the project as a whole (Martins et al. 2023). For example, if conceptualisation of a project is weighted at 40% of the overall final score, this can create a paradigm where authorship order is virtually decided after a specific task is completed.
- *Supporting evidence:* Contributors should be able to challenge their authorship position based on the recorded evidence (Herz et al. 2020). For example, if someone has been omitted from the authorship list but has recorded many contributions, the evidence can be used to claim the authorship, or to seek support for such a claim from the other team

**TABLE 1.** Potential tasks within categories used in the implementation of Dragon Kill Points. Categories and tasks may be added or removed as relevant and categories can be broken down into more specific tasks for the contribution tracking template depending on project needs, location (e.g., field site, country), or timing (e.g., year). Importantly, contributions are captured regardless of authorship status for inclusion in the acknowledgement section of research outputs. For an exhaustive, open-source, community-driven list of categories, see the Contributor Role Ontology: <https://data2health.github.io/contributor-role-ontology/>.

Category name	Description	Examples of tasks
Funding <sup>1</sup>	Obtaining and managing financial resources necessary to initiate and sustain the project. This includes securing funds, budgeting, and resource allocation to support all project activities <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Research funding opportunities: Identifying potential funding sources such as grants, fellowships, and sponsorships.</li> <li>- Grant proposal writing: Preparing and submitting detailed grant proposals, including budgets and timelines.</li> <li>- Budget planning: Developing comprehensive budgets that outline all projected expenses and resource needs.</li> <li>- Contract negotiation: Negotiating terms and agreements with funders or sponsors.</li> <li>- Financial management: Monitoring expenditures and process invoices while adjusting budgets as needed.</li> <li>- Financial reporting: Preparing regular financial reports for stakeholders and funding agencies.</li> <li>- Financial compliance assurance: Ensuring all financial activities comply with legal regulations and funding requirements.</li> </ul>
Conceptualisation <sup>1</sup>	Developing and defining the core ideas, hypotheses, and objectives that form the foundation of the research project. This involves formulating research questions, theoretical frameworks, and overall project goals <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Literature review: Conducting comprehensive reviews to identify research gaps and inform the project's direction.</li> <li>- Research question Formulation: Developing clear, focused, and researchable questions.</li> <li>- Hypothesis development: Creating testable hypotheses based on theoretical frameworks.</li> <li>- Objective setting: Defining specific, measurable, achievable, relevant, and time-bound (SMART) objectives.</li> <li>- Theoretical framework Construction: Building models or frameworks that underpin the research.</li> <li>- Collaborative ideation: Engaging with experts and stakeholders to refine ideas and approaches.</li> <li>- Methodological conceptualisation: Outlining research designs and selecting appropriate methodologies.</li> </ul>

Category name	Description	Examples of tasks
Project Administration <sup>1</sup>	Overseeing the organisational, logistical, and administrative tasks to ensure the project progresses efficiently and adheres to timelines and regulations. This includes planning, coordination, regulatory compliance, and risk management <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Project scheduling: Developing timelines and Gantt charts to map out project milestones and deadlines.</li> <li>- Meeting coordination: Scheduling and facilitating team meetings, preparing agendas, and documenting minutes.</li> <li>- Documentation management: Maintaining organised records of all project documents, communications, and data.</li> <li>- Progress tracking: Monitoring project advancement and adjusting plans to address delays or issues.</li> <li>- Communication facilitation: Ensuring effective information flow among team members and stakeholders.</li> <li>- Regulatory compliance: Managing ethical approvals and permits while adhering to institutional policies.</li> <li>- Risk management: Identifying potential risks and developing mitigation strategies.</li> </ul>
Team Assembly and Training <sup>2</sup>	Recruiting and organising a team with the necessary expertise, and providing training to enhance their skills relevant to the project. This ensures that all team members are prepared to contribute effectively <sup>2</sup> .	<ul style="list-style-type: none"> <li>- Role definition: Identifying the skills and expertise required for each team role.</li> <li>- Recruitment processes: Advertising positions, reviewing applications, and conducting interviews to select team members.</li> <li>- Onboarding sessions: Introducing new team members to the project goals, expectations, and workflows.</li> <li>- Training workshops: Organising sessions on tools, software, methodologies, or protocols essential for the project.</li> <li>- Team-building activities: Facilitating events to strengthen collaboration and trust among team members.</li> <li>- Role assignment: Assigning specific tasks and responsibilities to each team member based on their strengths.</li> <li>- Professional development: Providing or enabling activities for ongoing learning and skill enhancement.</li> </ul>
Investigation <sup>1</sup>	Performing background tasks related to research and data collection. This includes designing experiments, conducting studies, and gathering	<ul style="list-style-type: none"> <li>- Experimental design: Planning and structuring studies to effectively test hypotheses.</li> <li>- Instrument development: Creating surveys, questionnaires, or measurement tools for data collection.</li> <li>- Data collection execution: Carrying out laboratory or field studies, simulations, etc.</li> <li>- Fieldwork/laboratory coordination: Organising and conducting on-site data-gathering activities, including scheduling and logistics.</li> </ul>



Category name	Description	Examples of tasks
	empirical evidence <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Data recording: Systematically documenting observations, measurements, and results.</li> <li>- Ethical compliance: Obtaining informed consent and ensuring participant confidentiality and data protection.</li> <li>- Problem-solving: Addressing and resolving issues encountered during data collection processes.</li> </ul>
Methodology <sup>1</sup>	<p>Developing and refining the research methods and procedures used for data collection and analysis. This ensures that the approaches are appropriate, reliable, and valid for addressing the research questions<sup>1</sup>.</p>	<ul style="list-style-type: none"> <li>- Method selection: Choosing suitable research designs (e.g., qualitative, quantitative, mixed methods) aligned with research objectives.</li> <li>- Protocol development: Creating detailed procedures and guidelines for conducting the research.</li> <li>- Study/protocol registration: Registering study and/or archiving study protocol in an appropriate public repository or as a publication.</li> <li>- Pilot testing: Conducting preliminary studies to test and refine methodologies and instruments.</li> <li>- Analytical technique identification: Selecting appropriate statistical tests or qualitative analysis methods.</li> <li>- Bias mitigation: Identifying potential biases and implementing strategies to minimise them.</li> <li>- Data management planning: Establishing procedures for data handling, storage, and security.</li> <li>- Documentation: Thoroughly recording methodological decisions and rationales for transparency and reproducibility.</li> </ul>
Data curation <sup>1</sup>	<p>Managing, organising, and maintaining data throughout the project lifecycle. This involves ensuring data quality, integrity, and accessibility for analysis and future use<sup>1</sup>.</p>	<ul style="list-style-type: none"> <li>- Data organisation: Structuring data in databases or files with clear labeling and categorisation.</li> <li>- Data cleaning: Identifying and correcting errors, inconsistencies, and duplicates in the dataset.</li> <li>- Metadata creation: Developing comprehensive documentation describing the data's structure, content, and context.</li> <li>- Data security: Implementing backup systems, encryption, and access controls to protect data, as needed.</li> <li>- Access management: Setting up protocols for who can view or edit data while ensuring proper permissions are in place.</li> <li>- Regulatory compliance: Ensuring adherence to data protection laws</li> <li>- Data preservation planning: Planning for long-term storage, including file formats and repository selection for archiving.</li> <li>- Data sharing: Depositing datasets in open-access repositories with appropriate metadata and documentation.</li> </ul>

Category name	Description	Examples of tasks
Formal Analysis <sup>1</sup>	Applying statistical, computational, or qualitative analysis techniques to interpret the collected data and draw conclusions that address the research objectives <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Statistical analysis: Performing analyses using software (e.g., C++, Java, Python, R, SPSS, etc.) to test hypotheses and/or identify patterns.</li> <li>- Model development: Creating and validating computational models or simulations to represent data behavior.</li> <li>- Qualitative analysis: Analysing text or multimedia data through coding, thematic analysis, or discourse analysis.</li> <li>- Result interpretation: Contextualising findings within the framework of the research questions and literature.</li> <li>- Hypothesis testing: Evaluating the data to support or refute the initial hypotheses.</li> <li>- Pattern identification: Detecting trends, correlations, or anomalies in the data.</li> <li>- Analysis documentation: Archiving detailed records of analysis procedures, decisions, and outcomes for transparency and replication. Make the archive public.</li> <li>- Code publication: Sharing software code and tools on platforms like GitHub under open-source licenses.</li> </ul>
Visualisation <sup>1</sup>	Creating graphical or visual representations of data and research findings to enhance understanding and effectively communicate results to various audiences <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Chart and graph creation: Designing visual elements like bar charts, line graphs, scatter plots, or other appropriate formats to represent data and findings.</li> <li>- Infographic development: Combining visuals and text to summarise complex information in an accessible format.</li> <li>- Interactive visualisation: Using tools like Tableau or D3.js to create dynamic visuals that users can explore.</li> <li>- Figure preparation: Developing high-quality images for inclusion in publications, presentations, and reports.</li> <li>- Data mapping: Creating geographical maps or network diagrams to show spatial or relational data.</li> <li>- Graphical design refinement: Ensuring visuals are clear, accurate, and effectively highlight key findings.</li> <li>- Visual accessibility compliance: Adapting visuals to be interpretable by people with disabilities (e.g., colorblind-friendly palettes).</li> </ul>

Category name	Description	Examples of tasks
Writing - original draft <sup>1</sup>	Composing the initial versions of all written project materials, including manuscripts, reports, and documentation that detail the research process and findings <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Manuscript drafting: Writing the first versions of academic papers, including all necessary sections (e.g., abstract, introduction, methodology, results, and discussion).</li> <li>- Report writing: Preparing comprehensive project reports for stakeholders, detailing progress and results.</li> <li>- Protocol compliance: Recording how actual research deviated from the original plans, if archived registration or protocol is available for the project.</li> <li>- Literature synthesis: Compiling and integrating findings from existing research to provide context.</li> <li>- Grant applications: Drafting proposals to secure funding for the project.</li> <li>- Abstract and summary writing: Developing concise overviews of the research for various audiences.</li> <li>- Supplementary material preparation: Creating appendices, data tables, and supporting documents.</li> </ul>
Writing – Review & Editing <sup>1</sup>	Revising and refining written materials to improve clarity, coherence, and overall quality. This includes proofreading, incorporating feedback, and ensuring the content meets publication standards <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Content editing: Reworking text to improve structure, flow, and logical progression of ideas</li> <li>- Proofreading: Correcting grammatical errors, typos, and punctuation mistakes.</li> <li>- Feedback integration: Incorporating suggestions from peer reviews, collaborators, or supervisors.</li> <li>- Formatting compliance: Adjusting documents to meet specific style guidelines (e.g., APA, MLA) and publisher requirements.</li> <li>- Citation verification: Checking references and citations for accuracy and completeness.</li> <li>- Ethical review: Ensuring the text complies with ethical standards, including plagiarism checks.</li> <li>- Finalisation: Preparing the polished document for submission or publication and ensuring all components are complete and properly formatted.</li> <li>- Submission: Entering all relevant information and uploading files into the submission system, as required.</li> </ul>
Communication <sup>2</sup>	Disseminating research findings and project updates to both academic and non-academic audiences through various	<ul style="list-style-type: none"> <li>- Conference presentations: Preparing and delivering talks or posters at academic conferences and workshops.</li> <li>- Journal publications: Writing and submitting articles to peer-reviewed journals.</li> <li>- Media engagement: Collaborating with press offices to issue press releases and conduct interviews.</li> </ul>

Category name	Description	Examples of tasks
	channels to enhance visibility and impact <sup>2</sup> .	<ul style="list-style-type: none"> <li>- Social media outreach: Sharing updates and engaging with the public through platforms like Twitter, LinkedIn, or blogs.</li> <li>- Educational outreach: Organising public lectures, webinars, or workshops to educate broader audiences.</li> <li>- Stakeholder networking: Building relationships with industry partners, policymakers, or community groups.</li> <li>- Communication strategy development: Planning and implementing strategies to effectively disseminate information to target audiences.</li> </ul>
Validation <sup>1</sup> (checking)	Ensuring the accuracy, reliability, and validity of research findings through rigorous verification processes. This includes data checking, replication, and peer review to uphold research integrity <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Data verification: Cross-checking data entries, calculations, and results for accuracy.</li> <li>- Replication studies: Repeating experiments or analyses to confirm findings.</li> <li>- Peer review solicitation: Submitting work for external review and addressing feedback thoroughly.</li> <li>- Methodological cross-validation: Using different methods or datasets to validate results.</li> <li>- Quality control implementation: Establishing procedures to monitor and maintain high-quality standards throughout the research process.</li> <li>- Error documentation: Recording any discrepancies or issues encountered and the steps taken to resolve them.</li> <li>- Robustness testing: Performing sensitivity analyses to assess how results change with different assumptions or parameters.</li> </ul>
Supervision <sup>1</sup>	Providing leadership, guidance, and support to the research team. This involves mentoring, overseeing progress, and ensuring that the project objectives are met effectively and efficiently <sup>1</sup> .	<ul style="list-style-type: none"> <li>- Expectation setting: Communicating project goals, roles, and responsibilities to team members.</li> <li>- Performance monitoring: Reviewing team members' work and providing constructive feedback regularly.</li> <li>- Mentorship: Offering guidance and support for professional growth.</li> <li>- Conflict resolution: Addressing interpersonal issues and facilitating solutions.</li> <li>- Progress oversight: Tracking project milestones and ensuring timely completion of tasks.</li> <li>- Resource allocation: Ensuring team members have the tools and support they need.</li> <li>- Motivation and encouragement: Fostering a positive work environment that promotes collaboration and innovation.</li> </ul>

<sup>1</sup> Allen et al. 2014; Brand et al. 2015; Holcombe 2019<sup>2</sup> Cooke et al. 2021

members.

- *Fixed-order disciplines:* In some disciplines, authorship order is standardized as a rule (e.g. alphabetical; reviewed in Marušić et al. 2011). In such cases, Dragon Kill Points can still be used to argue for authorship. Tracking contributions may then fill a different role instead of determining authorship order, such as communicating which author should be contacted to discuss specific details of a project.

This dynamic system promotes engagement and ensures that contributors feel they have the autonomy to adjust their role as needed, making the process more reflective of actual contributions (al. 2023). For instance, more complex or time-intensive tasks can be given higher weights, ensuring that contributors receive credit proportional to their efforts (e.g., editing the whole manuscript draft may carry more weight than writing an abstract).

#### 4.5 TRANSPARENCY (T): ENSURING AN OPEN PROCESS

The openness and visibility of Dragon Kill Points build trust and collaboration among team members.

- *Shared access:* An up-to-date Dragon Kill Points table with contributions recorded should be available to everyone throughout the project. This allows contributors to track their own progress as well as others', facilitating discussions on authorship before issues arise (Bozeman & Youtie 2016).
- *Clear communication:* Any changes made to the contributions or rules should be discussed, documented, and shared with the team. The process of logging and evaluating contributions should remain open, ensuring no one is left out of key decisions (e.g., sharing documentation along with progress emails to all team members).

- *Visibility:* The detailed tables of contributions should be shared with the broader research community after the project is completed (e.g., in the supplementary materials). This enhances the project's credibility and encourages transparency across multiple levels of collaboration.

A transparent system fosters trust and accountability among team members along with the scientific community (McNutt et al. 2018). Contributors can be confident that their efforts will be publicly recognised, and they will have a clear understanding of where they should stand in the authorship list.

## 5. PRACTICAL CONSIDERATIONS FOR ADOPTING DRAGON KILL POINTS

### 5.1 LOGISTICAL CONSIDERATIONS

To encourage wide acceptance of Dragon Kill Points, it is important to address key logistical considerations related to simplicity, scalability, and flexibility. First, Dragon Kill Points should be easy to implement. Avoid unnecessary applications, skill-dependent programs, or costly software (e.g., Holcombe et al. 2020; Matentzoglou et al. 2022). A shared spreadsheet (e.g., in Github, Google Drive, or elsewhere) is enough to manage Dragon Kill Points while keeping the system accessible to all contributors. Bureaucracy, financial, or other artificial limitations (e.g., software available only on one operating system, a local drive, or at physical location, inaccessible or inconvenient meeting times, etc.) on Dragon Kill Points would be antithetical to the system as a whole (with the exception of any potential privacy concerns, which then should be discussed with team members beforehand). Secondly, Dragon Kill Points can be applied to any project size, from small teams ( $\geq 2$  people) to larger collaborations. As soon as there are multiple authors, or author candidates, Dragon Kill Points can provide the structure needed to organise contributions. Next, Dragon Kill Points

are customisable to accommodate many project types. We provide several free templates designed to be adaptable to different fields, including fieldwork, laboratory projects, reviews, opinion pieces, and theoretical work as some examples. This ensures that Dragon Kill Points can be tailored to your specific needs without adding unnecessary complexity. Lastly, at its core, Dragon Kill Points is designed to facilitate the determination of authorship order. However, field-specific customs may dictate that authorship be based on other criteria, such as alphabetically, regardless of contribution (Weber 2018; Wohlrabe & Bornmann 2022). In such cases, Dragon Kill Points would not be employed to determine order, but the underlying data that it contains (i.e., who did what and to what extent) may still warrant inclusion and monitoring.

### **5.2 DEFAULT AUTHORSHIP ORDER IN THE SOCIAL SCIENCES**

Expanding the application of Dragon Kill Points to social sciences is possible, particularly in disciplines like economics where alphabetical order has been the norm (Marušić et al. 2011). While alphabetical authorship may be perceived as a system to enhance fairness and avoid disputes (Henriksen 2019), it has inequitable effects on the professional success of authors (Einav & Yariv 2006). Its supposed benefits—such as increased article visibility—are minimal, with citation advantages only appearing in cases of two-author papers published in top-tier journals (Wohlrabe & Bornmann 2022). At the same time, multi-authored papers are becoming increasingly frequent in economics (Rath & Wohlrabe 2016) and elsewhere (Clement 2014; Smith & Master 2017; Borer et al. 2023), further calling into question the effectiveness of alphabetical ordering in assigning credit. Similar concerns have emerged in political science, where reliance on alphabetical order has been criticized, prompting calls for clearer authorship guidelines (Lake 2010). As research collaborations grow more complex, adopting Dragon Kill Points could

provide a structured alternative, ensuring that recognition is based on actual contributions rather than arbitrary alphabetical placement.

### **5.3 TIME INVOLVED**

A major concern with implementing any new system is the perceived time investment. However, significant, often unmeasured, time is already spent on people management and authorship discussions throughout projects, even if we do not consciously track it. Creating the initial templates and selecting categories (outlined in Table 1) is the most time consuming part of Dragon Kill Points, but this start-up time is greatly reduced with our ready-to-use templates (see data accessibility section). Once the template is set up, the total time spent inputting entries into the template is minimal (i.e., about one minute per person). The most significant benefit, however, lies in the reduced cognitive burden and stress of navigating difficult social dynamics (Bozeman & Youtie 2016). Dragon Kill Points helps clearly define who is an author, their roles, and, if used to do so, authorship order, reducing ambiguity and misunderstandings that lead to disputes.

### **5.4 STARTING THE CONVERSATION WITHOUT STEPPING ON TOES**

To initiate a conversation about implementing Dragon Kill Points in a group setting, interested individuals could start by framing the discussion as a potential tool for improving collaboration and tracking contributions. Drawing on examples of past authorship conflicts can provide context and introduce Dragon Kill Points as a proactive solution to prevent similar issues in the future. They might also volunteer to be the arbiter, taking on the responsibility of implementing the template, while emphasising how Dragon Kill Points can collectively benefit everyone, rather than focusing on individual performance. A strategy could be to suggest this paper as a topic for a journal club or mentioning the paper as something they recently read or heard others

discussing. Alternatively, using Figure 2 could help lighten the conversation and make the idea feel more approachable. These discussions can be done individually in cases where the group is more resistant to change than any individual member. The key is to help ensure that no one feels excluded or threatened by the new idea.

## 6. LET'S SLAY THE DRAGON TOGETHER!

A social shift, aided by a systemic shift, is called for academic authorship practices (Cronin 2001; Hess et al. 2015; Allen et al. 2019; Vasilevsky et al. 2021; Coles et al. 2023; Kiermer 2023; Lin 2024). Implementing structured frameworks like Dragon Kill Points can help normalise these conversations—conversations that are often difficult and awkward. When teams have clear, transparent guidelines to track and measure contributions, it becomes easier for researchers to advocate for their work to be acknowledged (McNutt et al. 2018). Although this approach requires some upfront effort to set expectations, these discussions should be occurring at the project's outset anyway (Hess et al. 2015; Bozeman & Youtie 2016; Frassl et al. 2018; Grossman & DeVries 2019; Borer et al. 2023). Our projects—our quests—should begin with open dialogue to avoid authorship decisions being made after the fact or against the evidence.

While Dragon Kill Points is tailored to journal article authorship, its potential reaches far beyond. Authorship disputes arise across a variety of media, including conference proceedings, government reports, software packages, undergraduate group assignments with contribution based grades, reagents, books, and even movie credits (Vasilevsky et al. 2021; Coles et al. 2023). In all these areas, contributors may go unrecognised or be placed in positions that do not reflect their actual input.

Of course, Dragon Kill Points may not be perfectly suited to every scenario—projects with only one contributor or massive collaborations with hundreds of participants will have different needs. However, for most collaborative teams, particularly those of three or more people,

Dragon Kill Points offers a GREAT method for managing contributions if adopted transparently and consistently.

People management is like data management; you need to know your workflow and elements beforehand. In both cases, if you do not do it properly, you are either losing data or people. Dragon Kill Points is a tool designed to simplify and normalise the authorship conversation, ensure fairness, and foster an environment where contributions are visible and trusted. Let's slay the dragon together—without turning on each other throughout the quest.

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## DATA ACCESSIBILITY STATEMENT

We have made all templates available through



our dedicated GitHub repository (<https://github.com/martinig/dragon-kill-points>), Center for Open Science ([https://osf.io/58qh4/?view\\_only=e69ab7df51394b00a4d9312d85603b3f](https://osf.io/58qh4/?view_only=e69ab7df51394b00a4d9312d85603b3f)), figshare (<https://doi.org/10.6084/m9.figshare.28405985.v1>), and Google Drive (<https://drive.google.com/drive/folders/1V8pxeQiAR7LJdyQ7Iu5v7Y8k7VNGyQe1?usp=sharing>).

#### **AUTHOR CONTRIBUTION STATEMENT WITH TOTAL DKP (DRAGON KILL POINTS FROM TABLE S1) ALONGSIDE CREDiT CONTRIBUTIONS**

**ARM** (62 DKP): Conceptualization, Methodology, Software, Data Curation, Visualization, Writing - Original Draft, Review & Editing; **SLPB** (46 DKP): Conceptualization, Writing - Original Draft, Review & Editing; **SMD** (20 DKP): Software, Visualization, Writing - Review & Editing; **IP** (14 DKP): Software, Writing - Review & Editing; **KM** (13 DKP): Software, Writing - Review & Editing; **MP** (11 DKP): Software, Writing - Review & Editing; **PPottier** (11 DKP): Writing - Review & Editing; **SN** (10 DKP): Conceptualization, Writing - Review & Editing; **PPollo** (10 DKP): Writing - Review & Editing; **LR** (10 DKP): Writing - Review & Editing; **CW** (9 DKP): Writing - Review & Editing; **AChhen** (8 DKP): Software, Writing - Review & Editing; **AM** (8 DKP): Writing - Review & Editing; **JT** (8 DKP): Data Curation, Writing - Review & Editing; **YY** (7 DKP): Writing - Review & Editing; **JdJ** (5 DKP): Visualization; **ACeccacci** (4 DKP): Writing - Review & Editing; **SC** (3 DKP): Writing - Review & Editing; **ML** (39 DKP): Conceptualization, Methodology, Software, Supervision, Writing - Review & Editing.

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Supplemental Material																																						
Table S1. Contributions are scored as 1 (yes) or 0 (no). Total counts are used when a non-binary system is not appropriate.																																						
name (listed alphabetically by last name)	joined project (mdy)	left project (mdy)	conceptualization	templates	literature search and literature summary	update templates after literature review	open access spreadsheet formatting (PDF, Excel, Google spreadsheets)	open access platforms (OSF, Github, figshare, google drive, and website)	dragon figure (5 pts)	dragon figure feedback (3 pts)	template figure (5 pts)	template figure feedback (3 pts)	table (5 pts)	table feedback	glossary	glossary feedback	draft 1 writing (5 pts)	draft 1 feedback (5 pts)	draft 2 writing (5 pts)	draft 2 feedback (5 pts)	draft 3 writing (5 pts)	draft 3 feedback (5 pts)	draft 4 writing (5 pts)	draft 4 feedback (5 pts)	draft 5 writing (5 pts)	draft 5 feedback (5 pts)	draft 6 writing (5 pts)	draft 6 feedback (5 pts)	final draft writing (5 pts)	final draft feedback (1 pt)	MS formatting for submission	cover letter for submission	website for dragon kill points	authorship order finalized	approval to submit	sum contribution scores	author order (*indicates equal authorship)	
Burk, Spenser L. P.	11/6/2023	NA	1	0	1	0	0	0	5	3	0	2	1	0	0	0	5	0	5	0	2	0	4	0	3	2	1	4	5	1	1	0	0	0	NA	NA	46	2
Burke, Samantha	11/20/2023	12/10/2024	0	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	NA
Ceccacci, Alberto	12/10/2024	NA	NA	NA	NA	0	0	0	NA	0	NA	1	NA	0	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	2	1	0	0	0	0	0	NA	NA	4	17
Chhen, Aimee	12/10/2024	NA	NA	NA	NA	0	1	0	0	1	0	1	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	0	0	0	0	0	NA	NA	8	12*	
Cincotta, Joe	not participating	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	
Cuadros, Sandra	12/10/2024	NA	NA	NA	NA	0	0	0	0	1	0	1	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	0	0	0	0	0	0	NA	NA	3	18
de Jong, Julia	12/11/2024	NA	NA	NA	NA	0	0	0	5	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0	NA	NA	5	16
Drobniak, Szymon M.	11/15/2023	NA	0	2	1	0	0	0	5	1	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	NA	NA	20	3
Gibson, Matthew J.	11/5/2023	12/10/2024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA
Lagisz, Malgorzata	11/3/2023	NA	1	1	1	0	0	0	0	3	0	2	1	1	1	1	1	4	2	2	0	5	4	1	2	3	0	3	1	0	0	0	0	0	NA	NA	39	19
Martiniq, April Robin	11/3/2023	NA	1	4	1	6	1	1	5	2	5	3	1	1	1	0	5	0	5	0	2	0	5	0	3	0	3	0	5	0	1	1	1	0	NA	NA	62	1
Morrison, Kyle	11/5/2023	NA	0	1	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	NA	NA	13	5
Mizuno, Ayumi	11/5/2023	NA	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	NA	NA	8	12*
Nakagawa, Shinichi	11/3/2023	NA	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	NA	NA	10	8*	
Perry, Isabella	12/10/2024	NA	NA	NA	NA	6	0	0	0	2	0	1	2	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	NA	1	0	0	0	0	0	NA	NA	14	4
Petersohn, Megan	12/17/2024	NA	NA	NA	NA	0	5	0	0	0	0	1	0	1	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0	0	0	0	0	NA	NA	11	6*
Pollo, Pietro	11/5/2023	NA	0	0	1	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	NA	NA	10	8*
Pottier, Patrice	11/5/2023	NA	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	NA	NA	11	6*
Ricoffi, Lorenzo	11/5/2023	NA	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	NA	NA	10	8*
Tam, Jess	11/8/2023	NA	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	NA	NA	8	12*
Williams, Coralie	11/5/2023	NA	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	NA	NA	9	11
Yang, Yefeng	11/5/2023	NA	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	NA	NA	7	15	