

Discussion Section Moves & Steps

Move 1: Re-Establishing the Territory

The first move in the Discussion and Conclusion section is called "Re-establishing the territory." This move functions to provide a foundation for the discussion and better contextualize the argument that follows. Move 1 "Re-establishing the territory" in the Discussion/Conclusion section and Move 1 "Establishing the territory" in the Introduction section have similar names, because their functions are similar.

There are four steps that can be used to achieve the communicative goal of Move 1:

- (1) Drawing on general background, and/or
- (2) Drawing on study-specific background, and/or
- (3) Announcing principal findings, and/or
- (4) Previewing content.

Drawing on general background is a step that is used to set the foundation for a broader reflection on the study and/or principal study findings. This is accomplished by bringing in theoretical and/or empirical knowledge or other relevant information, with or without referencing.

Here are two examples of how you can accomplish this step:

- Example 1 (Curriculum and Instruction):
The fact is that in countries like the United Kingdom (see Peeters, 2008) and the United States (Hyson & Biggar, 2006), there is a clearly greater differentiation in the nature and level of content standards (see also Busch-Rossnagel & Worman, 1985).
- Example 2 (Horticulture):
Hansen et al. (1978) and Veierskov et al. (1982) observed a negative correlation between carbohydrates and rooting (when light was given to alter stock plant carbohydrate content).

Drawing on study-specific background is similar to the previously described step as it aims to provide a foundation for a broader reflection on the study and/or principal findings. Consider the following examples:

- Example 3 (Forestry):
This analysis considered the efficacy of a suite of even-and uneven-aged treatments to address fire hazard in Colorado based on their ability to reduce crown fire initiation and spread.
- Example 4 (Mechanical Engineering):
Since we consider sinusoidal bottom contours we describe the hydraulic jumps in terms of the Froude number at the inclination angle of the channel.

Announcing principal findings is used to set the groundwork for a broader reflection on the principal findings in the study through a statement, synthesis, or summarization of major results from the current study (see Example 5 and 6).

- Example 5 (Horticulture):
*Fig. 2 Non-radioactive dot-blot hybridisation shows results of a large-scale analysis of apricot (*Prunus armeniaca*) and other stone fruit samples.*
- Example 6 (Health Human Performance):
A major finding of this study is that short and long-term androstenedione supplementation did not

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increase the serum testosterone concentration in young men with normal serum testosterone levels.

Previewing content indicates the structure and/or content of the section. You can use this step to orient the reader to the section's content and to highlight noteworthy features of the text that follows. The following are examples of how you can realize this step:

- Example 7 (Applied Linguistics):

The following section presents the topics and discussion that contributed to this shift.

- Example 8 (Plant Pathology):

Next, we provide evidence that AAP2 functions in xylem-phloem transfer of amino acids.

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Move 2: Framing Principle Findings

The next move in the Discussion and Conclusion section is “Framing principal findings.” The function of this move is to discuss and establish meaning of the current study’s results. The name “Framing principal findings” comes from the move’s aim to frame or position the main findings from the current study in a way that makes sense to the reader.

There are four steps that can be used to achieve the communicative goal of Move 2, and it is possible that none of these steps may appear in the Conclusion section.

- (1) Accounting for results, and/or
- (2) Explicating results, and/or
- (3) Relating to expectations, and/or
- (4) Addressing limitations.

Accounting for results is used to reflect on the nature of the results. This could be accomplished with or without referencing previous works. You can use this step to clarify what may have caused the results or outcomes, suggest reasons or hypotheses that could account for certain findings, and justify the nature of results.

Here are two examples of how you can accomplish this step:

- Example 1 (Plant Pathology):

These changes are most probably related to modifications in N uptake into aap2 mesophyll cells, as suggested by upregulation of amino acid importer LHT1 (Figure 7A) and increased uptake of 14C-label.

- Example 2 (Genetics):

That multiple genes in this pathway are underexpressed in hybrids of both species pairs perhaps is a cause or consequence of their sterility.

Explicating results explains the reported results in the context of the study and/or in a broader context of the discipline.

Consider the following examples:

- Example 3 (Curriculum and Instruction):

We must therefore conclude, to use the terminology of Goodlad et al. (1979), that the content standards, as formulated by the relevant official bodies, have not been properly incorporated into the formal curriculum, despite their authoritative national status.

- Example 4 (Agronomy):

This research also showed that the effectiveness of rotations at reducing the weed seedbank was dependent on the specific crop that initiated the rotations (Fig. 1-3).

Relating to expectations reasons about the researchers’ anticipated or unanticipated findings and/or observations. You can use this step to point out expected or unexpected results, express your attitudes about the results, often concerning surprise or unsatisfactory findings, and connect findings to initial hypotheses (i.e. to describe how findings were or were not confirmed; see Example 5 and 6).

- Example 5 (Horticulture):

Hypothesis 1 is verified by unchanged oil content values in rain-fed plot.

- Example 6 (Biochemistry and Biophysics):

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Interestingly, relative to inulin the dimer exhibited higher activity than the tetramer [35].

Addressing limitations is used to evaluate the study by pointing out the limitations of the study specifics and/or decrease the severity of certain shortcomings in the research. The following are examples of how you can realize this step:

- Example 7 (Geological and Atmospheric Sciences):

However, the study area spans an overly large region encompassing several climatic zones, which calls into question whether chronologies can simply be averaged.

- Example 8 (Applied Linguistics):

Our study was not free of problems, however. For instance, the overall rate of participation in sending feedback by e-mail was just over 50% of all participants (23 corrective feedback e-mails to 44 transcripts in English sessions and 23 corrective feedback e-mails to 43 transcripts in Japanese sessions).

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Move 3: Reshaping the Territory

The next move in the Discussion and Conclusion sections is Move 3, "Reshaping the territory." The primary function of Move 3 is to redefine the territory, or research space, in light of the newly acquired empirical knowledge. Move 3 is titled "Reshaping the territory" because it fuses new knowledge generated by the current study and old knowledge from previous studies to reshape the research space for the studied issue within the field. In this way, Move 3 updates the existing state of knowledge on the investigated topic in the discipline.

There are two steps that can be used to achieve the communicative goal of Move 3:

- (1) Supporting with evidence and/or
- (2) Countering with evidence.

Supporting with evidence supports the claims made by other researchers and/or your claims based on the discussed findings.

Here are two examples of how you can accomplish this step:

- Example 1 (Veterinary Medicine):

This difference in outcome between the treatment groups did not reach statistical significance, but an overall survival rate of 80% was very similar to that reported in the recent literature [13].

- Example 2 (Genetics):

This supports previous findings that early and late growth in mice occur under different genetic regulation (Cheverud et al., 1996; Vaughn et al., 1999; Rocha et al., 2004).

Countering with evidence

Consider the following examples:

- Example 3 (Mechanical Engineering):

Bontozoglou found a nonlinear resonance at a waviness smaller than ours [26]. However, the one he found numerically for the capillary-gravity regime in rather thick films is quite different from our observations.

- Example 4 (Biophysics and Biochemistry):

The molecular mass of deglycosylate inulinase from *Aspergillus awamori* var. 2250 constitutes 69 kDa [18]; from *Aspergillus niger* 12, 81 kDa [38];

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Move 4: Establishing Additional Territory

The fourth move in the Discussion and Conclusion section is called "Establishing additional territory." Move 4 carries the function of expanding beyond the principal findings of the current study and beyond the current study's specifics in order to discuss them in the broader context of the discipline. Move 4 is entitled "Establishing additional territory," because as authors extend the discussion of the current study and its findings, they create further research space for the investigated issue in the discipline. It is within this additional space that future authors can build upon knowledge generated in the current study.

There are two steps that can be used to achieve the communicative goal of Move 4:

- (1) Generalizing results, and/or
- (2) Stating the value, and/or
- (3) Noting implications, and/or
- (4) Proposing directions.

Generalizing results is used to infer from results and to develop general claims and/or conclusions. Authors typically accomplish this step by summarizing or synthesizing the results and making deductions from them. You can use this step to broaden the scope of specific results, expand the meaning of the principal findings outside the framework of the current study, and consider the generalizability, transferability, reliability, and/or validity of the current study's results.

Here are two examples of how you can accomplish this step:

- Example 1 (Economics): *The results of this study thereby show that the choice of the best model depends on the error measurement which depends on the ultimate purpose of the forecasting procedure.*
- Example 2 (Animal Science): *To summarize, the results from this study suggest that high calpastatin activity results in decreased calpain activity and, thus, decreased tenderness.*

Stating the value demonstrates the noteworthiness of the current study by pointing out valuable findings. You can use this step to advocate the importance of the results or even the importance of the study and to show the specific contribution of the current study to the issue and/or field.

Consider the following examples:

- Example 3 (Genetics): *Therefore, the findings on QTLs contributing to naturally occurring variations in postnatal growth are expected to be novel.*
- Example 4 (Molecular Biology): *The finding that TAF7 functions independently of a TAF1/TFIID complex significantly extends the growing body of evidence that TAFs contribute to transcriptional regulation outside of their assembly in the intact TFIID complex.*

Noting implications informs the readers of potential implications of the results and/or study. You can use this step to explain how the results could be applied more broadly to research, practice, and/or theory in the discipline, show the larger impact of the results and/or study in the discipline, and notify the reader of possible consequences of the study and/or results (see Example 5 and 6).

- Example 5 (Organic Chemistry) *Further, the more saturated green analogue showed excellent optical and redox stabilities to repeated switching (over 3000 cycles onto ITO) in comparison to its control parent, hence demonstrating the*

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potential of this ECP for device applications.

- Example 6 (Plant Pathology)

An important implication of this study is that zinc, because of the stabilization of phenoxyl radicals generated in peroxidase reactions in the apoplast, may promote oxidative stress in vivo and induce changes in antioxidative metabolism.

Proposing directions lets authors make recommendations and/or suggest lines of future investigation or research. Authors may also suggest practical applications of the current study's findings. You can use this step to assert the need for future work in the field, call for action in the field, continue addressing the targeted niche to further contribute new knowledge to the field, and possibly announce follow-up or on-going research plans by the same author(s).

The following are examples of how you can realize this step:

- Example 7 (Plant Pathology)

It would be interesting to design breeding experiments to explore if high AGPase activity late in grain filling stage cosegregates with enhanced seed weight in population segregating for grain weight so that cause/effect relationship could be established.

- Example 8 (Veterinary Medicine)

Further research is recommended to confirm the efficacy of the product, to ascertain an optimal dosage for the hyperimmune plasma used in this study, and to clarify whether enteral or parenteral administration is more beneficial to the patient.