Introduction Sections in Scientific Research Reports (IMRaD)

IMRaD refers to reports with the structure Introduction-Method-Results-Discussion used in empirical research in natural and social sciences. Please refer to the Writing Center quick guide "Writing an IMRaD Report" for more explanations.

The goal of the introduction in an IMRaD report is to give the reader an overview of the literature in the field, show the motivation for your study, and share what unique perspective your research adds. To introduce readers to your material and convince them of the research value, we have some suggestions (based on Swales, 1990) to help your introduction meet the expectations of the academic community.

Generally, introductions are broken into three parts. However, depending on the discipline, journal, or purpose of the paper, they may be used in different ways. The table below details these three moves.

Move	Sub-Moves	Sample Language1
Move 1: Establishing a Research Territory Describes the current state of knowledge and research on the topic.	a) Show that the research area is important, problematic, or relevant in some way b) Introduce and review previous research in the field	a) *Evidence suggests that X is among the most important factors for … Existing research recognizes the critical role played by …* b) *Data from several studies suggest that* *Extensive research has shown …*

Move 2: **Establishing a Niche**	One or more of these are included:	
Establishes motivation for the study. Usually this move is short, and can be addressed in just one or several sentences.	a) Claim something is wrong with the previous research b) Highlight a gap in the field c) Raise a question where research in field is unclear d) Contribute something additional to the field	a) *Smith's analysis does not take into account …* b) *Previous studies on X have not dealt with …* c) *Research on the subject has been unable to specify whether …* d) *This study seeks to obtain data which will help to address these research gaps.*
Move 3: **Occupying the Niche** Shows how your research fills the niche and brings new perspectives to the field.	One or more of these are included: a) Outline your purposes and state the nature of your research b) State your hypothesis or research question you seek to answer c) Share your findings d) Elaborate on the value of your research e) Outline the structure that	a) *The purpose of this investigation is to explore the relationship between…* b) *We investigate the following research question:* … c) *This study provides new insights into...* d) *The present research explores, for the first time, the effects of …* e) *This paper has been divided into four parts. The first part*

	the research paper will follow	*deals with ...*

The sample language above is taken directly from the University of Manchester's Academic Phrasebank: http://www.phrasebank.manchester.ac.uk/introducing-work/.

Sample introduction

Below is an example of an introduction from a published research article. Notice how the three moves are utilized throughout the introduction.

Electronic cigarettes (also known as vapes, vaporizers, or vape pens) were introduced into the US market in 2007. They are generally battery-powered products that heat liquid into an aerosol that is inhaled by the user. These devices are designed to deliver nicotine and flavors; they also contain chemicals such as propylene glycol, glycerin, and many other constituents. Use of e-cigarettes has dramatically increased over the past 4 years, tripling among high school students from a rate of 4.5% in 2011 to 27.4% in 2014 (CDC, 2015, 2016). Further, 27.4% of adolescents in the U.S. have ever used e-cigarettes (CDC, 2015), with 30% of California youth reporting ever using an e-cigarette (California Department of Public Health, 2015)...

The literature on e-cigarette attitudes thus far has predominantly focused on harm perceptions and general acceptability of and attitudes towards e-cigarettes and cigarettes. To our knowledge, there are few studies that have more comprehensively examined adolescents' specific attitudes towards and knowledge about e-cigarettes, and/or whether such attitudes differ between those who have and have not used e-cigarettes or other tobacco...

We thus examined a broad array of adolescents' knowledge and attitudes regarding e-cigarette ingredients, addictive properties, safety, cessation, perceived prevalence, accessibility, price, and regulation. We also examined whether these attitudes differ between adolescents who have and have not used cigarettes and/or e-cigarettes. Based on the small body of literature on e-cigarette attitudes, the larger set of literature on adolescents' attitudes towards cigarettes, and the relationship between such attitudes and tobacco use (e.g., Halpern-Felsher et al., 2004; Krosnick et al., 2006; Song et al., 2009; Roditis et al., 2016), we hypothesized that: (1) adolescents will believe that a greater number of parents, siblings, and peers are using e-cigarettes compared to cigarettes; (2)...

(adapted from https://www.sciencedirect.com/science/article/pii/S0091743516303413)

- *Italics* = Establishing the research territory
- Underlined = Establishing the niche
- **Bold** = Occupying the niche

Activity to help you prepare for writing IMRaD introductions

Choose a journal in your discipline and read a few different articles, paying close attention to the Introduction sections. Identify the three moves and the ways they are expressed, and answer the following questions.

- How closely do these introductions mirror the structure laid out above? If they deviate, do you think this was a good decision on the authors' part? Why or why not?
- How is each move expressed? What language helped you identify these moves?
- Are there some features of these introductions that you would use in your own paper? Any you would not?
- How are the citations laid out across the different introductions? In which moves are citations predominantly used? How can you explain this use?

Exercise adapted from Swales, J. M., & Feak, C. B. (2004). *Academic writing for graduate students: Essential tasks and skills*. Ann Arbor, Michigan: University of Michigan Press.