
Publishing Successful Practitioner (Teaching Techniques) Manuscripts for the Journal of Science Education for Students with Disabilities

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Abstract: *The Journal of Science Education for Students with Disabilities (JSESD) is the premier journal focusing on the intersections of science education for students with disabilities. JSESD provides valuable content and context for teachers and researchers on what works in advancing science access, practices, and knowledge for all students across settings, grades, ages, and exceptionality. One way in which JSESD supports teachers and researchers is through publication of practitioner manuscripts also referred to as Teaching Techniques. These manuscripts focus on the how-to portion of science education. That is, JSESD practitioner publications give detailed information on how-to provide science instruction or how-to implement instructional strategies or supports, hence Teaching Techniques. The purpose of this paper is to provide guidance to authors on what to include (or not include) in Teaching Techniques practitioner manuscript submissions to JSESD for successful publication.*

Keywords: *science, students with disabilities, practitioners, instruction, strategies, supports*

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The Journal of Science Education for Students with Disabilities (JSESD) is the premier journal focusing on the intersections of science education for students with disabilities. The purpose of the JSESD is to provide a forum for presentation of research and exemplary practice in the field of science education as it relates to teaching students with disabilities. JSESD provides valuable content and context for teachers and researchers on what works in advancing science access, practices, and knowledge for all students across settings, grades, ages, and exceptionalities. While JSESD mainly publishes research, other types of manuscripts are encouraged and accepted. One way in which JSESD supports teachers and researchers is through publication of practitioner manuscripts or “Teaching Techniques” article as they are referred to in JSESD. These manuscripts focus on the *how-to* portion of science education for students with disabilities. That is, JSESD’s Teaching Techniques are practitioner publications that give detailed information on *how-to provide science instruction or how-to implement instructional strategies or supports*. The purpose of this paper is to provide guidance to authors on what to include (or not include) in a Teaching Techniques practitioner manuscript submission to JSESD for successful publication. Journals with similar goals (i.e., practitioner supports) have provided detailed guidance for potential authors including: *Teaching Exceptional Children* (Ludlow & Dieker, 2013; Sayeski, 2018), *Beyond Behavior* (Mooney & Ryan, 2018), and *Science Scope* (National Science Teaching Association [NSTA], n.d.). The guidance provided by those authors for those publications lay the foundation for the goals and purpose of the current paper. This guide will focus on three core areas:

1. considerations for writing practitioner manuscripts for JSESD,
2. types of practitioner manuscripts for JSESD, and
3. formatting practitioner manuscripts for JSESD.

CONSIDERATIONS

When writing a practitioner piece for JSESD, there are a number of considerations that need to be taken into account. Practitioner papers should be grounded in solid theory and evidence of effectiveness. That is, the core elements of the suggested practice should have previous studies or research with operational procedures that showed improvement for students with disabilities (Cook et al., 2013), particularly focused on science and science-related outcomes. Mooney and Ryan (2018) identified multiple elements of writing practitioner manuscripts including:

- a strong rationale for the intervention or process being described,
- a brief summary (with references) that support the intervention or process, and
- a detailed description of the steps or process for implementation or teaching.

Practitioner manuscripts for JSESD need a firm foundation in research along with actionable procedures that can followed by practitioners regardless of setting or student population (Sayeski, 2018) or as prescribed in the manuscript.

TYPES OF MANUSCRIPTS

JSESD is interested in two types of Teaching Techniques or *how-to* practitioner articles: a) *how-to provide science instruction in a particular topic* (e.g., environmental education, analyzing data, water cycle) and b)

Table 1: Manuscript Information and NGSS Connection Table Example

| | | | |
|--|---|--|------------------|
| Grade Level: | Middle School (7th Grade) | Subject: | Physical Science |
| Disability Focus: | Emotional/Behavioral Disorders (EBD) | | |
| Strategy Focus: | Classwide Peer Tutoring (CWP) | | |
| safety Precautions; | N/A | | |
| NGSS Standard: | MS-PS3-2. Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system | | |
| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | |
| <i>Engaging in Argument from Evidence</i> Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed worlds | <i>PS3.C: Relationship Between Energy and Forces</i> When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object. (MS-PS3-2) | <i>Systems and System Models</i> Models can be used to represent systems and their interactions – such as inputs, processes, and outputs – and energy and matter flows within systems. (MS-PS3-2) | |

how-to implement evidence-based strategies for science learning (e.g., using graphic organizers, peer-assisted learning, discrete trial teaching). Manuscripts that focus on a particular topic should include specifics about that topic and details that can provide high fidelity of instruction and/or implementation. Manuscript that detail strategies to apply during science instruction should include a detailed example of the strategy use and detailed step-by-step implementation instructions. Each type of manuscript should be developed from and reflect current research regarding the teaching and learning of science or the strategic method that is the focus of the manuscript (NSTA, n.d.).

FORMATTING MANUSCRIPTS

Complete manuscript should be between 10-25 double space pages using 12-point Arial or Times New Roman font. All elements of the manuscript should be included

within that page range including main body, references, tables, and/or figures. The remainder of formatting should be followed as described on the JSESD’s author guidelines (https://scholarworks.rit.edu/jsesd/author_guidelines.pdf). Sayeski (2018) identified a number of elements (high-utility elements) that should be included in practitioner papers that increases the usability of a published manuscript (e.g., checklist, forms, guiding questions, pictures, screenshots, step-by-step directions, examples, and/or list of resources). All practitioner manuscripts submitted to JSESD (i.e., content-focused or strategy-focused) should include a table that should indicate the following: grade level, disability specific focus (as appropriate), subject or content focus, Next Generation Science Standards (NGSS) content: standard, science and engineering practices, disciplinary core ideas, crosscutting concepts. See Table 1 for an example.

Table 2: Brief Vignette Example

Mrs. James reviewed the concept maps of the students in her Behavior Support class. All of her students seemed to have misconceptions about energy and types of energy. As she wondered what the best ways were to help her students understand energy, she decided to speak with the Physical Science teacher in her unit Mrs. Treatman. After a discussion with Mrs. Treatman, Mrs. James felt like she had a game plan and some great activities and opportunities for research and exploration for her students to learn about energy.

Note. The above vignette is for introducing the context for the intervention, process, strategy, or activity

Manuscripts can optionally include a vignette that helps readers understanding and provide context for instructional use. Scenarios or vignettes, if included, should describe how “practices might be implemented with one or more individuals or in different contexts” (Sayeski, 2018, p. 117). Scenarios or vignettes should be woven throughout the manuscript and formatted in italics at every point they are revisited (See Table 2 for a brief vignette example). Scenarios and vignettes should help introduce the lesson, activity, or strategy; provide context to what is being discussed in the manuscript; and provide resolution of success for the students and/or teacher.

Authors should use headings and subheadings as appropriate with all tables and figures placed after References section. It is also recommended that authors use the JSESD Teaching Techniques Practitioner Manuscript Checklist (See Table 3) to provide additional guidance prior to submitting manuscript for review. Completion of the JSESD Teaching Techniques Practitioner Manuscript Checklist is not necessary for manuscript submission, however, it is suggested to be used as a guide to ensure that required and optional components of the are included prior to manuscript submission. The Checklist is designed to increase the likelihood of a quality submission and thus increased likelihood of possible

publication. At publication, Teaching Techniques manuscripts will be designated as such (as opposed to Research Manuscript).

CONCLUDING REMARKS

JSESD strives to be an excellent source for research and practice focused on science education for students with exceptionalities. By publishing Teaching Techniques practitioner manuscripts in JSESD, you can contribute to increased access and inclusion in science classrooms and beyond. As stated by Ludlow & Dieker (2013) regarding publishing practitioner journals, you can “have a far-ranging effect on how learners with exceptionalities are taught for years to come (p. 65).

Table 3: JSESD Teaching Techniques Practitioner Manuscript Checklist

| JSESD Teaching Techniques Practitioner Manuscript Checklist | |
|--|---|
| <i>Manuscript includes the following:</i> | |
| <input type="checkbox"/> | focus specifically on students with disabilities or exceptionalities |
| <input type="checkbox"/> | focus on how-to teach specific content, process, or subject (i.e., Earth science)* |
| <input type="checkbox"/> | focus on how-to implement strategy or technique (i.e., graphic organizers)* |
| <input type="checkbox"/> | all of the following: grade level, subject/content, disability focus |
| <input type="checkbox"/> | all required NGSS information |
| <input type="checkbox"/> | (<i>optional</i>) essential pre-existing knowledge, time required, cost** |
| <input type="checkbox"/> | identify or state intervention/strategy focus (if applicable)** |
| <input type="checkbox"/> | information regarding safety precautions (if applicable)** |
| <input type="checkbox"/> | use of one or more of the following: table, chart, picture, graph, figure, drawing, etc. |
| <hr/> Note. * = must identify one or the other; ** = optional for the information table. | |

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