To: Dr. Robert O’Donnell
From: Mr. Vernon Bock, Assistant Superintendent for Elementary Education
Date: September 19, 2018

Enclosed please find a research proposal submitted by LeeAnna Hooper, Doctoral Candidate in Curriculum and Instruction (Science Education) at The Pennsylvania State University.

The purpose of this study is to identify how experienced elementary teachers, whose approach to science teaching is focused on engaging students in constructing scientific explanations and arguing from evidence, incorporates classroom discourse to support literacy and epistemic practices for sensemaking in science.

Please note that this study does not require formal IRB review because the research met the criteria for exempt research.

LeeAnna Hooper, doctoral candidate, will be in attendance at the School Board Meeting on September 24, 2018, should you have any questions. I am in support of this project and recommend approval of this research proposal.

Attachment
September 7, 2018

Dear Mr. Bock,

I am writing to request permission to conduct research within the State College Area School District during the 2018-2019 academic year. I am an elementary science methods instructor for Penn State’s College of Education and a fourth-year doctoral candidate in Curriculum and Instruction (more specifically science education). I have spent the last three years teaching elementary science methods at Penn State in the on-campus program. In addition to teaching in Penn State’s on-campus program, I am also in my second year of serving as a Professional Development Associate (PDA) in the Professional Development School (PDS).

As a doctoral student, I am interested in conducting research for my dissertation around the topic of elementary science and literacy. My dissertation study is titled: Small Group Discourse to Support Literacy and Epistemic Practices for Sensemaking in K-5 Science. More specifically, I am interested in examining the ways in which teachers, with an extensive background in ambitious science teaching practices, use literacy practices to support their students in making sense of disciplinary core ideas in science. Current reform documents in both science and language arts do not provide a framework for how elementary teachers can use essential literacy practices and embed them in their science instruction. The purpose of this qualitative study is to identify how experienced elementary teachers, whose approach to science teaching is focused on engaging students in constructing scientific explanations and arguing from evidence, incorporates classroom discourse to support literacy and epistemic practices for sensemaking in science. I strive to better understand the instructional practices that teachers are using when they implement literacy practices in their science instruction. The study is important in better understanding how sound science instruction can be capitalized to support students in learning important literacy skills.

Given my research interest, I would like to collect data about the teaching practices used by Deana Washell and Colleen McCracken at Easterly Parkway. I have had the privilege of working with both Deana and Colleen in co-teaching science methods for the PDS and I feel they would be incredibly important participants for the topic that I am interested in studying. My data collection would be during the 2018-2019 academic year and I would be interested in gathering video of classroom science instruction, classroom artifacts (student science notebooks, images of student work, anchor charts, etc.), and interviews (students and teachers).

I have attached my research proposal, which has been approved by Penn State’s Institutional Review Board (approval form is attached). In addition to my proposal, I have attached two letters of support from individuals that are familiar with my professional work. This dissertation research will be overseen by my doctoral committee that includes: Drs. Greg Kelly (Dissertation Chair), Anne Whitney, Rachel Wolkenhauer, and Susan Strauss.

I greatly appreciate you taking the time to review my proposal for research and the supporting documents that I have included. Should you grant permission for me to conduct research within SCASD, I will need to obtain a letter of permission from the district.
Please feel free to contact me if you have any questions. I can be reached via email (lkh5212@psu.edu) or phone (309-809-6705). I look forward to your response.

Sincerely,

LeeAnna Hooper
LeeAnna Hooper
HRP-591 - Protocol for Human Subject Research

Protocol Title:
Provide the full title of the study as listed in item 1 on the “Basic Information” page in CATS IRB (http://irb.psu.edu).
Small Group Discourse to Support Literacy and Epistemic Practices for Sensemaking in K-5 Science

Principal Investigator:
Name: LeeAnna Hooper
Department: Curriculum and Instruction
Telephone: 303-809-6705
E-mail Address: lkh5212@psu.edu

Version Date:
Provide the date of this submission. This date must be updated each time the submission is provided to the IRB office with revisions.
6/24/2018

Clinicaltrials.gov Registration #:
Provide the registration number for this study, if applicable.
Not applicable

Important Instructions for Using This Protocol Template:
1. Add this completed protocol template to your study in CATS IRB (http://irb.psu.edu) on the “Basic Information” page, item 7.
2. This template is provided to help investigators prepare a protocol that includes the necessary information needed by the IRB to determine whether a study meets all applicable criteria for approval.
3. Type your protocol responses below the gray instructional boxes of guidance language. If the section or item is not applicable, indicate not applicable.
4. For research being conducted at Penn State Hershey or by Penn State Hershey researchers only, delete the instructional boxes from the final version of the protocol prior to upload to CATS IRB (http://irb.psu.edu). For all other research, do not delete the instructional boxes from the final version of the protocol.
5. When making revisions to this protocol as requested by the IRB, please follow the instructions outlined in the Study Submission Guide available in the Help Center in CATS IRB (http://irb.psu.edu) for using track changes.

If you need help...

University Park and other campuses:
Office for Research Protections Human Research Protection Program
The 330 Building, Suite 205
University Park, PA 16802-7014
Phone: 814-865-1775
Fax: 814-863-8699
Email: irb-orp@psu.edu

College of Medicine and Hershey Medical Center:
Human Subjects Protection Office
90 Hope Drive, Mail Code A115, P.O. Box 855
Hershey, PA 17033
(Physical Office Location: Academic Support Building Room 1140)
Phone: 717-531-5687
Fax number: 717-531-3937
Email: irb-hspo@psu.edu
<table>
<thead>
<tr>
<th>Section Number</th>
<th>Section Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Objectives</td>
</tr>
<tr>
<td>2.0</td>
<td>Background</td>
</tr>
<tr>
<td>3.0</td>
<td>Inclusion and Exclusion Criteria</td>
</tr>
<tr>
<td>4.0</td>
<td>Recruitment Methods</td>
</tr>
<tr>
<td>5.0</td>
<td>Consent Process and Documentation</td>
</tr>
<tr>
<td>6.0</td>
<td>HIPAA Research Authorization and/or Waiver or Alteration of Authorization</td>
</tr>
<tr>
<td>7.0</td>
<td>Study Design and Procedures</td>
</tr>
<tr>
<td>8.0</td>
<td>Subject Numbers and Statistical Plan</td>
</tr>
<tr>
<td>9.0</td>
<td>Confidentiality, Privacy and Data Management</td>
</tr>
<tr>
<td>10.0</td>
<td>Data and Safety Monitoring Plan</td>
</tr>
<tr>
<td>11.0</td>
<td>Risks</td>
</tr>
<tr>
<td>12.0</td>
<td>Potential Benefits to Subjects and Others</td>
</tr>
<tr>
<td>13.0</td>
<td>Sharing Results with Subjects</td>
</tr>
<tr>
<td>14.0</td>
<td>Subject Stipend (Compensation) and/or Travel Reimbursements</td>
</tr>
<tr>
<td>15.0</td>
<td>Economic Burden to Subjects</td>
</tr>
<tr>
<td>16.0</td>
<td>Resources Available</td>
</tr>
<tr>
<td>17.0</td>
<td>Other Approvals</td>
</tr>
<tr>
<td>18.0</td>
<td>Multi-Site Research</td>
</tr>
<tr>
<td>19.0</td>
<td>Adverse Event Reporting</td>
</tr>
<tr>
<td>20.0</td>
<td>Study Monitoring, Auditing and Inspecting</td>
</tr>
<tr>
<td>21.0</td>
<td>Future Undetermined Research: Data and Specimen Banking</td>
</tr>
<tr>
<td>22.0</td>
<td>References</td>
</tr>
</tbody>
</table>
1.0 Objectives

1.1 Study Objectives

Describe the purpose, specific aims or objectives. State the hypotheses to be tested.

Teachers design learning opportunities in science that allows for students to engage in various methods of reading, writing, and talking science. These cross disciplinary elements of science teaching allow for rich learning opportunities in literacy development. Teachers who enact ambitious science teaching practices that focus on eliciting students’ ideas and pressing for evidence in science learning will be able to engage their students in practice-based science and classroom discourse that promotes sensemaking of important core ideas in science. The purpose of this qualitative study is to identify how experienced elementary teachers, whose approach to science teaching is focused on engaging students in constructing scientific explanations and arguing from evidence, incorporates classroom discourse to support literacy and epistemic practices (Kelly, 2008) for sensemaking in science.

1.2 Primary Study Endpoints

State the primary endpoints to be measured in the study. Clinical trials typically have a primary objective or endpoint. Additional objectives and endpoints are secondary. The endpoints (or outcomes), determined for each study subject, are the quantitative measurements required by the objectives. Measuring the selected endpoints is the goal of a trial (examples: response rate and survival).

Not applicable

1.3 Secondary Study Endpoints

State the secondary endpoints to be measured in the study.

Not applicable

2.0 Background

2.1 Scientific Background and Gaps

Describe the scientific background and gaps in current knowledge.

Students’ early experiences in science are essential to their on-going science learning and development. Beginning in elementary school, students should be given opportunities to ask questions and inquire about natural phenomena, engage in scientific practices and discourse, and begin to develop an understanding of what it means to reason with scientific ideas. An extensive body of research exists that indicates that students’ early experiences in science are essential to their on-going science learning and development. Taking Science to School (NRC, 2007) provided a synthesis of research about young students’ science learning and their capacity to engage in scientific reasoning. Reform policies, A Framework for K-12 Science Education (NRC, 2012) and Next Generation Science Standards (NGSS Lead States, 2013), led to an ambitious vision for learning and teaching in science (Windschitl, Braaten, & Stroupe, 2012). However, a test-driven curriculum reshaped what is valued in the classroom. Often times, classroom curriculum emphasizes development in language arts, with a significant amount of instructional time focused on reading and writing. For instance, teachers frontload science vocabulary instruction, engage students in reading and writing about science, as well as speaking and listening about science ideas. Integrating science and literacy in an elementary has led to an increase in Language Arts strategies being applied to science instruction and a disconnect between science and literacy in an elementary classroom (NRC, 2014). These moves in science instruction are in contrast to what has been identified as conducive to supporting student learning in science. When Language Arts
strategies are applied to science, students read, write, and talk about science. Instead, there is a need for identifying teaching practices in which language arts practices are used for science. This type of instruction allows for teachers to design instruction in which meaning around science vocabulary terms should be negotiated and co-constructed in the context of doing science. Science texts should be co-constructed and critiqued through classroom discourse and connected to practice-based science learning. Lastly, students should be given ample opportunities to participate in public discourse and reasoning using scientific norms and conventions.

Literacy plays a critical role in learning science. As part of the reform movement, researchers advocate for student’s engagement in the scientific practices as a way of making sense of science ideas and concepts. These practices involve a language-rich, sense-making process that includes “using cognitive, social, and language skills” (NRC, 2014, p. 11). Literacy becomes an essential component of what it means to engage in and learn science. Currently, however, literacy practices in science teaching result in a focus on teaching vocabulary and learning science through non-fiction texts (NRC, 2014). This is in stark contrast to the idea of providing students opportunities to learn the language and practices of science through active participation in science investigations and rich discourse. Policy documents in both literacy and science do not provide a framework for teachers in supporting students in using discipline specific literacy practices when investigating science ideas and engaging in scientific discourse. Although research exists outlining the benefits of reading, writing, and talking science, very little has been outlined to support teaching practices in the policy documents for elementary science teaching.

2.2 Previous Data

Describe any relevant preliminary data.

Not applicable

2.3 Study Rationale

Provide the scientific rationale for the research.

In the last decade, science education has undergone significant reform. This reform has greatly influenced the methods and practices for teaching science K-12 and has had a direct impact on how learning in elementary science should be designed and enacted. These early experiences with science learning serve as a foundation for continued engagement in scientific practices and discourse throughout middle and high school. In the field of science education, the importance of student’s engagement in learning science has been documented in reform policies and movements. In particular, the reform movement highlights the need for students to have sustained opportunities to investigate disciplinary core ideas through the use of scientific practices and discourse.

Drawing heavily on the Literacy for Science report (NRC, 2014) and the emergent practices identified above, I advocate for literacy for science, in which literacy practices that are specific to science as a discipline are leveraged to support students in making sense of science ideas and the epistemic practices of science. Literacy for sensemaking in science pushes against the traditional notions of what counts as literacy in an elementary classroom. I build upon this idea and argue that science researchers must explore fundamental questions about what counts as literacy for science in an elementary classroom and how do teachers support student’s development in language and literacy as they relate to science? I strive to better understand the instructional practices that teachers are using when then implement literacy practices in their science instruction. The study is important in better understanding how sound science instruction can be capitalized to support students in learning important literacy skills. The study of the teaching practices serves as a format for making the analysis of their teaching public, as well as document the relationship between literacy. Through the design of this qualitative study, I hope to identify how experienced elementary teachers enact instruction that leverages literacy for sense-making in science. The goal of this study is to answer the question: How do experienced elementary teachers, whose approach to science teaching is focused on engaging students in constructing scientific explanations, incorporate small group discourse to support literacy and epistemic practices for sensemaking in science?
3.0 Inclusion and Exclusion Criteria

Create a numbered list below in sections 3.1 and 3.2 of criteria subjects must meet to be eligible for study enrollment (e.g., age, gender, diagnosis, etc.). Indicate specifically whether you will include any of the following vulnerable populations: (You may not include members of these populations as subjects in your research unless you indicate this in your inclusion criteria.) Review the corresponding checklists to ensure that you have provided the necessary information.

- **Adults unable to consent**
  - Review “CHECKLIST: Cognitively Impaired Adults (HRP-417)” to ensure that you have provided sufficient information. HRP-417 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

- **Individuals who are not yet adults (infants, children, teenagers)**
  - If the research involves persons who have not attained the legal age for consent to treatments or procedures involved in the research (“children”), review the “CHECKLIST: Children (HRP-416)” to ensure that you have provided sufficient information. HRP-416 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

- **Pregnant women**
  - Review “CHECKLIST: Pregnant Women (HRP-412)” to ensure that you have provided sufficient information. HRP-412 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

- **Prisoners**
  - Review “CHECKLIST: Prisoners (HRP-415)” to ensure that you have provided sufficient information. HRP-415 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

- **Neonates of uncertain viability or non-viable neonates**
  - Review “CHECKLIST: Neonates (HRP-413)” or “CHECKLIST: Neonates of Uncertain Viability (HRP-414)” to ensure that you have provide sufficient information. HRP-413 and HRP-414 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

3.1 Inclusion Criteria

List the criteria that define who will be included in your study.

1. Elementary teachers that regularly teach science. Ages 18 years and older.
2. Individuals who are not yet adults will be included in this study. All elementary students enrolled in the recruited teachers’ classes for the 2018-2019 academic year are eligible. Ages under 18.

3.2 Exclusion Criteria

List the criteria that define who will be excluded in your study.

1. No teachers will be excluded from this study.
2. No elementary students enrolled in the participant’s classrooms will be excluded from this study.

3.3 Early Withdrawal of Subjects
3.3.1 Criteria for removal from study

Insert subject withdrawal criteria (e.g., safety reasons, failure of subject to adhere to protocol requirements, subject consent withdrawal, disease progression, etc.).

Participants will not be removed from the study, unless they would like to withdraw, in which case data related to those individuals would not be used. Participants may withdraw from the study at any time.

3.3.2 Follow-up for withdrawn subjects

Describe when and how to withdraw subjects from the study; the type and timing of the data to be collected for withdrawal of subjects; whether and how subjects are to be replaced; the follow-up for subjects withdrawn from investigational treatment.

Participants and/or those providing consent for participants under the age of 18 will communicate to the researcher that they do not want to continue with the study. No additional data will be collected from that individual. Subjects would not be replaced, but they would still engage in class activities as part of the classroom community.

4.0 Recruitment Methods

4.1 Identification of subjects

Describe the methods that will be used to identify potential subjects or the source of the subjects. If not recruiting subjects directly (e.g., database query for eligible records or samples) state what will be queried, how and by whom. StudyFinder: If you intend to use StudyFinder (http://studyfinder.psu.edu) for recruitment purposes, please indicate this in section 4.1 along with any other methods for identifying subjects. Note that information provided in this protocol should be consistent with information provided on the StudyFinder page in your CATS IRB study.

For Penn State Hershey submissions using Enterprise Information Management (EIM) for recruitment, attach your EIM Design Specification form on the Basic Information page in CATS IRB (http://irb.psu.edu). See HRP-103 Investigator Manual, “What is appropriate for study recruitment?” for additional information.

1. Elementary teachers that have a pre-existing professional relationship with the researcher will be recruited for this study.
2. All elementary students enrolled in participants’ classes in the 2018-2019 academic year will be asked to participate. Subjects will be recruited directly from their classroom setting.

4.2 Recruitment process

Describe how, where and when potential subjects will be recruited (e.g., approaching or providing information to potential subjects for participation in this research study).

1. After receiving IRB approval, the Principal Investigator will schedule a time to meet with two elementary teachers at the end of their work day at Easterly Parkway Elementary to introduce the study and outline the ways in which potential participants can be involved. They will be given a letter with study information and a consent form.
2. Upon receiving consent from the classroom teachers, the Principal Investigator will meet with all elementary students and their guardians at Easterly Parkway Elementary to introduce the study and outline the ways in which their child may participate in the study. A letter with study information,
as well as a consent form will be given to each potential participant and their guardian. Consent forms will be collected by the classroom teachers’ and given to the Principal Investigator.

4.3 Recruitment materials

List the materials that will be used to recruit subjects. Add recruitment documents to your study in CATS IRB (http://irb.psu.edu) on the “Consent Forms and Recruitment Materials” page. For advertisements, upload the final copy of printed advertisements. When advertisements are taped for broadcast, attach the final audio/video tape. You may submit the wording of the advertisement prior to taping to preclude re-taping because of inappropriate wording, provided the IRB reviews the final audio/video tape.

StudyFinder: If you intend to use StudyFinder (http://studyfinder.psu.edu) for recruitment purposes, you do not need to upload a separate recruitment document for information placed on the StudyFinder site to your study in CATS IRB. Necessary information will be captured on the StudyFinder page in your CATS IRB study.

The potential participants will be given a letter with information about the study along with a consent form. A verbal script will be used to recruit participants.

4.4 Eligibility/screening of subjects

If potential subjects will be asked eligibility questions before obtaining informed consent, describe the process. Add the script documents and a list of the eligibility questions that will be used to your study in CATS IRB (http://irb.psu.edu) on the “Consent Forms and Recruitment Materials” page.

StudyFinder: If you intend to use StudyFinder (http://studyfinder.psu.edu) for recruitment purposes, any scripts (phone, email, or other) used when contacting StudyFinder participants as well as any eligibility screening questions must be added to your study in CATS IRB (http://irb.psu.edu) on the “Consent Forms and Recruitment Materials” page.

Not applicable

5.0 Consent Process and Documentation

Refer to “SOP: Informed Consent Process for Research (HRP-090)”, for information about the process of obtaining informed consent from subjects. HRP-090 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

5.1 Consent Process

5.1.1 Obtaining Informed Consent

5.1.1.1 Timing and Location of Consent

Describe where and when the consent process will take place.

1. Potential participants will be asked for consent during an informal meeting, which takes place at Easterly Parkway Elementary.
2. Upon receiving consent from classroom teachers, a formal meeting will be held at Easterly Parkway Elementary for their students and their respective guardians, in which the Principal Investigator will ask for consent.

All potential participants will be informed of the following during the consent process:
i. Name and contact information for the researcher (the researcher identifies himself/herself as a Penn State researcher) and advisor (If the researcher is a student);

ii. That the activities involve research;

iii. A description of the procedures to be performed by subjects;

iv. The individual’s participation is voluntary and they may end participation at any time;

v. If the study involves surveys or questionnaires, indicate that subjects may choose not to answer specific questions;

vi. The extent, if any, to which confidentiality of records identifying the subject will be maintained.

5.1.1.2 Coercion or Undue Influence during Consent

| Describe the steps that will be taken to minimize the possibility of coercion or undue influence in the consent process. |

During the collection of the consent forms, the Principal Investigator (PI) will remind potential participants that participation in the study is voluntary and will not impact their ability to participate in the classroom community or any classroom evaluations of student performance. The PI will introduce the study and outline the ways in which participants can be involved in the study. To minimize the possibility of coercion, potential participants will be informed that their ability to participate in classroom instruction will not be affected by their participation. They will also be made aware that they can withdraw from the study at any time.

5.1.2 Waiver or alteration of the informed consent requirement

| If you are requesting a waiver or alteration of consent (consent will not be obtained, required information will not be disclosed, or the research involves deception), describe the rationale for the request in this section. If the alteration is because of deception or incomplete disclosure, explain whether and how subjects will be debriefed. Add any debriefing materials or document(s) to your study in CATS IRB (http://irb.psu.edu) on the “Supporting Documents” page. NOTE: Review the “CHECKLIST: Waiver or Alteration of Consent Process (HRP-410)” to ensure you have provided sufficient information for the IRB to make these determinations. HRP-410 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu). |

Not applicable

5.2 Consent Documentation

5.2.1 Written Documentation of Consent

| Refer to “SOP: Written Documentation of Consent (HRP-091)” for information about the process to document the informed consent process in writing. HRP-091 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu). |

If you will document consent in writing, describe how consent of the subject will be documented in writing. Add the consent document(s) to your study in CATS IRB (http://irb.psu.edu) on the “Consent Forms and Recruitment Materials” page. Links to Penn State’s consent templates are available in the same location where they are uploaded and their use is required.
1. The participants will print their names and sign the consent form (see attached consent form). There will be no formal witness to the signing process. All consent forms will be collected and placed in an envelope.

2. Guardians of underage participants will print the minor’s name, as well as the guardian’s name and sign the consent form (see attached consent form). There will be no formal witness to the signing process. All consent forms will be collected and placed in an envelope.

5.2.2 Waiver of Documentation of Consent (Implied consent, Verbal consent, etc.)

If you will obtain consent (verbal or implied), but not document consent in writing, describe how consent will be obtained. Add the consent script(s) and/or information sheet(s) to your study in CATS IRB (http://irb.psu.edu) on the “Consent Forms and Recruitment Materials” page. Links to Penn State’s consent templates are available in the same location where they are uploaded and their use is required. Review “CHECKLIST: Waiver of Written Documentation of Consent (HRP-411)” to ensure that you have provided sufficient information. HRP-411 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

If your research presents no more than minimal risk of harm to subjects and involves no procedures for which written documentation of consent is normally required outside of the research context, the IRB will generally waive the requirement to obtain written documentation of consent.

Not applicable

5.3 Consent – Other Considerations

5.3.1 Non-English Speaking Subjects

Indicate what language(s) other than English are understood by prospective subjects or representatives.

If subjects who do not speak English will be enrolled, describe the process to ensure that the oral and written information provided to those subjects will be in that language. Indicate the language that will be used by those obtaining consent.

Indicate whether the consent process will be documented in writing with the long form of the consent documentation or with the short form of the consent documentation. Review the “SOP: Written Documentation of Consent (HRP-091)” and the “Investigator Manual (HRP-103)” to ensure that you have provided sufficient information. HRP-091 and HRP-103 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

The population at Easterly Parkway has many families and students in which English is not the primary language spoken. Upon gaining consent from the prospective teachers in the study, I will ask them to provide me with information regarding the various languages that are spoken by their students and subsequently their parents/guardians. After determining the different languages spoken, I will work with the school and their translating services to ensure that all written information is provided in the family’s first language. Additionally, translators will be asked to attend the consent meeting at the school to ensure that oral information is provided in their first language.
5.3.2 Cognitively Impaired Adults

Refer to “CHECKLIST: Cognitively Impaired Adults (HRP-417)” for information about research involving cognitively impaired adults as subjects. HRP-417 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

5.3.2.1 Capability of Providing Consent

Describe the process to determine whether an individual is capable of consent. Not applicable

5.3.2.2 Adults Unable To Consent

Describe whether and how informed consent will be obtained from the legally authorized representative. Describe who will be allowed to provide informed consent. Describe the process used to determine these individual’s authority to consent to research.

For research conducted in the state, review “SOP: Legally Authorized Representatives, Children and Guardians (HRP-013)” to be aware of which individuals in the state meet the definition of "legally authorized representative". HRP-013 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

For research conducted outside of the state, provide information that describes which individuals are authorized under applicable law to consent on behalf of a prospective subject to their participation in the procedure(s) involved in this research. One method of obtaining this information is to have a legal counsel or authority review your protocol along with the definition of “children” in “SOP: Legally Authorized Representatives, Children, and Guardians (HRP-013).” HRP-013 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

Not applicable

5.3.2.3 Assent of Adults Unable to Consent

Describe the process for assent of the subjects. Indicate whether assent will be required of all, some or none of the subjects. If some, indicate which subjects will be required to assent and which will not.

If assent will not be obtained from some or all subjects, provide an explanation of why not.

Describe whether assent of the subjects will be documented and the process to document assent. The IRB allows the person obtaining assent to document assent on the consent document and does not routinely require assent documents and does not routinely require subjects to sign assent documents.

Not applicable
5.3.3 Subjects who are not yet adults (infants, children, teenagers)

5.3.3.1 Parental Permission

Describe whether and how parental permission will be obtained. If permission will be obtained from individuals other than parents, describe who will be allowed to provide permission. Describe the process used to determine these individual’s authority to consent to each child’s general medical care.

For research conducted in the state, review “SOP: Legally Authorized Representatives, Children and Guardians (HRP-013)” to be aware of which individuals in the state meet the definition of “children”. HRP-013 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

For research conducted outside of the state, provide information that describes which persons have not attained the legal age for consent to treatments or procedures involved in the research, under the applicable law of the jurisdiction in which research will be conducted. One method of obtaining this information is to have a legal counsel or authority review your protocol along with the definition of “children” in “SOP: Legally Authorized Representatives, Children, and Guardians (HRP-013).” HRP-013 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

Parental permission will be attained at the time of consent.

5.3.3.2 Assent of subjects who are not yet adults

Indicate whether assent will be obtained from all, some, or none of the children. If assent will be obtained from some children, indicate which children will be required to assent. When assent of children is obtained describe whether and how it will be documented.

Assent will be obtained from the children that have parental permission to participate in the study. Children that do not have parental permission to participate will not be asked to assent. Assent will be obtained using the following protocol:

- A verbal script will be used to provide a simple oral description of the child’s involvement will be provided.
- Verbal assent will be requested from each child and documented on the consent form.
- To ensure that the above protocol is followed and that the child gives assent, a witness will be present and their signature will be documented on the consent form. Signature of a witness indicates that the PI provided the oral description and verbal assent was given by the under-age participant.

6.0 HIPAA Research Authorization and/or Waiver or Alteration of Authorization

This section is about the access, use or disclosure of Protected Health Information (PHI). PHI is individually identifiable health information (i.e., health information containing one or more 18 identifiers) that is transmitted or maintained in any form or medium by a Covered Entity or its Business Associate. A Covered Entity is a health plan, a health care clearinghouse or health care provider who transmits health information in electronic form. See the “Investigator Manual (HRP-103)” for a list of the 18 identifiers. HRP-103 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).
If requesting a waiver/alteration of HIPAA authorization, complete sections 6.2 and 6.3 in addition to section 6.1. The Privacy Rule permits waivers (or alterations) of authorization if the research meets certain conditions. Include only information that will be accessed with the waiver/alteration.

6.1 Authorization and/or Waiver or Alteration of Authorization for the Uses and Disclosures of PHI

Check all that apply:

☑️ Not applicable, no identifiable protected health information (PHI) is accessed, used or disclosed in this study. [Mark all parts of sections 6.2 and 6.3 as not applicable]

☐ Authorization will be obtained and documented as part of the consent process. [If this is the only box checked, mark sections 6.2 and 6.3 as not applicable]

☐ Partial waiver is requested for recruitment purposes only (Check this box if patients’ medical records will be accessed to determine eligibility before consent/authorization has been obtained). [Complete all parts of sections 6.2 and 6.3]

☐ Full waiver is requested for entire research study (e.g., medical record review studies). [Complete all parts of sections 6.2 and 6.3]

☐ Alteration is requested to waive requirement for written documentation of authorization (verbal authorization will be obtained). [Complete all parts of sections 6.2 and 6.3]

6.2 Waiver or Alteration of Authorization for the Uses and Disclosures of PHI

6.2.1 Access, use or disclosure of PHI representing no more than a minimal risk to the privacy of the individual

6.2.1.1 Plan to protect PHI from improper use or disclosure

Include the following statement as written – DO NOT ALTER OR DELETE unless this section is not applicable because the research does not involve a waiver of authorization. If the section is not applicable, remove the statement and indicate as not applicable.

Not applicable

6.2.1.2 Plan to destroy identifiers or a justification for retaining identifiers

Describe the plan to destroy the identifiers at the earliest opportunity consistent with the conduct of the research. Include when and how identifiers will be destroyed. If identifiers will be retained, provide the legal, health or research justification for retaining the identifiers.

Not applicable

6.2.2 Explanation for why the research could not practicably be conducted without access to and use of PHI

Provide an explanation for why the research could not practicably be conducted without access to and use of PHI.

Not applicable
6.2.3 Explanation for why the research could not practicably be conducted without the waiver or alteration of authorization

Provide an explanation for why the research could not practicably be conducted without the waiver or alternation of authorization.

Not applicable

6.3 Waiver or alteration of authorization statements of agreement

By submitting this study for review with a waiver of authorization, you agree to the following statement – DO NOT ALTER OR DELETE unless this section is not applicable because the research does not involve a waiver or alteration of authorization. If the section is not applicable, remove the statement and indicate as not applicable.

Not applicable

7.0 Study Design and Procedures

7.1 Study Design

Describe and explain the study design.

The primary focus of this study is on the use of classroom discourse to support elementary students in the epistemic aims and literacy practices for making sense of scientific concepts. Given the goals of the study, the primary data sources for this study are video of classroom instruction, ethnographic field notes, interviews of teachers and students, and classroom/student artifacts. All elementary students will write in a science notebook throughout a given unit of study during science lessons as part of the normal science learning requirements. Those who choose to participate in this study will give permission to the researchers to examine classroom artifacts and student written work. Participation in this study does not go beyond the normal expectations for completing the classroom requirements in a science/writing unit. Student participants may be asked to complete an informal interview after the conclusion of a lesson or unit of study. Interviews will be recorded and only conducted upon written consent. Field notes will be taken by the Principal Investigator during classroom instructional team and teacher planning team. Teachers may be asked to participate in a short informal interview after the conclusion of a lesson or unit of study. Interviews will be recorded and only conducted upon written consent. The Principal Investigator will maintain a researcher’s journal that will be shared with the research team.

7.2 Study Procedures

Provide a description of all research procedures being performed and when they are being performed (broken out by visit, if applicable), including procedures being performed to monitor subjects for safety or minimize risks. Include any long-term follow-up procedures and data collection, if applicable.

Describe where or how you will be obtaining information about subjects (e.g., medical records, school records, surveys, interview questions, focus group topics, audio or video recordings, data collection forms, and collection of specimens through invasive or non-invasive procedures to include the amount to be collected and how often). Add any data collection instruments that will be seen by subjects to your study in CATS IRB (http://irb.psu.edu) in the “Supporting Documents” page.

7.2.1 Video of Classroom Instruction

Provide a description as defined above and format accordingly.
Two video cameras (one at the back corner of the room and one near the front of the room) will be placed in the classroom during all science instruction throughout a unit of study. These video cameras will be used to capture instruction and student activities during science lessons. Additionally, audio recorders will be used and placed at student work tables to capture audio of student work times. Any students who do not have consent for research will be placed outside of the view of the table and away from audio recorders, but still have access to instruction. All video and audio recordings will be uploaded to the PSU secure Box folder.

7.2.2 Ethnographic Field Notes

Provide a description as defined above and format accordingly.

Fieldnotes will be taken by the Primary Investigator (PI) throughout the duration of the 2018-2019 academic year. The PI will take electronic notes and store them in the secured PSU Box folder. There will not be any hardcopy notes taken during this study. Names of participants will not be used in the notes, rather a coding scheme will be used to identify the participants in the notes.

7.2.3 Interviews

Provide a description as defined above and format accordingly.

1. Teachers will be asked to participate in a 60-minute interview at the end of an instructional unit. In which they will be prompted to reflect on the use of literacy and epistemic practices during instruction across the unit. Teachers may be asked to participate in very brief informal interviews after a lesson as a means for discussing their reflections of the lesson just taught. All interviews will be voluntary and they will be audio recorded and transcribed.
2. Students may be asked to participate in a short 10-minute interview where they may be asked to describe some of the written work that they have completed during class time. Interviews will be done so that they do not take away from students’ instructional time. These interviews will be audio recorded and transcribed.

7.2.4 Classroom Artifacts/Student Work

Provide a description as defined above and format accordingly.

As part of the classroom requirements, students regularly complete written tasks and write in science notebooks. Images of de-identified student work will be collected and stored in the PSU Box drive for analysis. Additionally, images will be collected of co-produced classroom artifacts, such as classroom charts, drawings, and work done on the whiteboard. These artifacts will also be stored in the PSU secured box folder.

7.3 Duration of Participation

Describe the duration of an individual subject’s participation in the study.

1. The participants’ participation will not extend beyond normal planning or instructional time. However, following a lesson or unit of study, teachers may be asked to participate in informal follow-up interviews for approximately 60 minutes.
2. The participants’ participation will not extend beyond the normal classroom instruction. However, some participants may be asked to participate in an informal interview for approximately 10 minutes.
8.0 Subject Numbers and Statistical Plan

8.1 Number of Subjects

Indicate the total number of subjects to be accrued.

If applicable, distinguish between the number of subjects who are expected to be enrolled and screened, and the number of subjects needed to complete the research procedures (i.e., numbers of subjects excluding screen failures.)

There are approximately 52 potential subjects if all of the participants consent to the study. There is not a set number needed for the study.

8.2 Sample size determination

If applicable, provide a justification of the sample size outlined in section 8.1 – to include reflections on, or calculations of, the power of the study.

Not applicable

8.3 Statistical methods

Describe the statistical methods (or non-statistical methods of analysis) that will be employed.

A non-statistical approach to analysis will be taken. This is a qualitative study that will employ an analysis of classroom discourse and student artifacts.

9.0 Confidentiality, Privacy and Data Management

For research being conducted at Penn State Hershey or by Penn State Hershey researchers only, the research data security and integrity plan is submitted using “HRP-598 – Research Data Plan Review Form Application Supplement”, which is available in the Library in CATS IRB (http://irb.psu.edu). Refer to Penn State College of Medicine IRB’s “Standard Operating Procedure Addendum: Security and Integrity of Human Research Data”, which is available on the IRB’s website. In order to avoid redundancy, for this section state “See the Research Data Plan Review Form” in section 9.0 if you are conducting Penn State Hershey research and move on to section 10.

For all other research, in the sections below, describe the steps that will be taken to secure the data during storage, use and transmission.

9.1 Confidentiality

9.1.1 Identifiers associated with data and/or specimens

List the identifiers that will be included or associated with the data and/or specimens in any way (e.g., names, addresses, telephone/fax numbers, email addresses, dates (date of birth, admission/discharge dates, etc.), medical record numbers, social security numbers, health plan beneficiary numbers, etc.).

If no identifiers will be included or associated with the data in any way, whether directly or indirectly, please indicate this instead.

Each participant will be assigned a number. A list of the participants and their assigned number will be maintained in a secured Penn State Box folder that has been shared amongst the
research team. When the data is stored electronically all data will be de-identified. Video and audio recordings may contain names of the participants, the school in which they work and/or attend, as well as the school district name. Each of the identifiers will be replaced with pseudonyms in the transcripts.

9.1.1 Use of Codes, Master List

If identifiers will be associated with the data and/or specimens (as indicated in section 9.1.1 above), describe whether a master record or list containing a code (i.e., code number, pseudonyms) will be used to separate the data collected from identifiable information, where that master code list will be stored, who will have access to the master code list, and when it will be destroyed.

If identifiers are included or associated with the data as described in section 9.1.1 above, but no master record or list containing a code will be used, it will be assumed by the IRB that the investigator plans to directly link the identifiers with the data.

A code number list for participants’ names will be stored on a secure server (Penn State Box) with access to the members of the research study team. Within eight weeks of the completion of data collection, this list will be destroyed.

9.1.2 Storage of Data and/or Specimens

Describe where, how and for how long the data (hardcopy (paper) and/or electronic data) and/or specimens will be stored. NOTE: Data can include paper files, data on the internet or websites, computer files, audio/video files, photographs, etc. and should be considered in the responses. Refer to the “Investigator Manual (HRP-103)” for information about how long research records must be stored following the completion of the research prior to completing this section. HRP-103 can be accessed by clicking the Library link in CATS IRB (http://irb.psu.edu).

Please review Penn State’s Data Categorization Project for detailed information regarding the appropriate and allowable storage of research data collected according to Penn State Policy AD71. Although the IRB can impose greater confidentiality/security requirements (particularly for sensitive data), the IRB cannot approve storage of research data in any way or using any service that is not permissible by Penn State Policy AD71.

Copies of electronic data (teachers’ planning documents, classroom artifacts, student notebooks), audio recordings, and transcripts will be stored on a secured server (Within a folder on Penn State Box that will be password protected and only shared amongst the research team). This electronic data will be downloaded or copied by the research team. This data will be de-identified at the time of download and stored in a Penn State Box folder labeled with the assigned pseudonym. The data will be stored for a period of five years after the close of the study. There will not be any hardcopy (paper) data associated with this study.

Interactions in the classroom and interviews will be recorded using video cameras and audio recorders. These recordings will be uploaded to a secured Penn State Box file and the data from the video and audio recording devices will be immediately deleted. Recordings will be transcribed and stored electronically. The video and/or audio recordings will be stored with the other data for the five-year storage period after the close of the study.
9.1.3 Access to Data and/or Specimens

Identify who will have access to the data and/or specimens. This information should not conflict with information provided in section 9.1.1.1 regarding who has access to identifiable information, if applicable.

The Principal Investigator and other members of the study team will have access to the data.

9.1.4 Transferring Data and/or Specimens

If the data and/or specimens will be transferred to and/or from outside collaborators, identify the collaborator to whom the data and/or specimens will be transferred and how the data and/or specimens will be transferred. This information should not conflict with information provided in section 9.1.1.1 regarding who has access to identifiable information, if applicable.

Not applicable

9.2 Subject Privacy

This section must address subject privacy and NOT data confidentiality.

Indicate how the research team is permitted to access any sources of information about the subjects.

Describe the steps that will be taken to protect subjects’ privacy interests. “Privacy interest” refers to a person’s desire to place limits on whom they interact with or to whom they provide personal information.

Describe what steps you will take to make the subjects feel at ease with the research situation in terms of the questions being asked and the procedures being performed. “At ease” does not refer to physical discomfort, but the sense of intrusiveness a subject might experience in response to questions, examinations, and procedures.

In this study, participants are voluntarily providing access to their work and classroom artifacts, allowing for a participant to not make visible to others (aside from the members of the research team) that they are electing to participate. In order to protect a participants’ privacy interest, participants at any time may request that any or all of their work be removed from the project. Interviews will be held on-site at Easterly Parkway which is a location familiar to the participants and it would not appear out of the ordinary to talk with a faculty member in the College of Education.

10.0 Data and Safety Monitoring Plan

This section is required when research involves more than Minimal Risk to subjects. As defined in “SOP: Definitions (HRP-001)”, available in the Library in CATS IRB (http://irb.psu.edu), Minimal Risk is defined as the probability and magnitude of harm or discomfort anticipated in the research that are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. For research involving prisoners, Minimal Risk is the probability and magnitude of physical or psychological harm that is normally encountered in the daily lives, or in the routine medical, dental, or psychological examination of healthy persons. Please complete the sections below if the research involves more than minimal risk to subjects OR indicate as not applicable.

10.1 Periodic evaluation of data

Describe the plan to periodically evaluate the data collected regarding both harms and benefits to determine whether subjects remain safe.
Not applicable

10.2 **Data that are reviewed**
Describe the data that are reviewed, including safety data, untoward events, and efficacy data.

Not applicable

10.3 **Method of collection of safety information**
Describe the method by which the safety information will be collected (e.g., with case report forms, at study visits, by telephone calls and with subjects).

Not applicable

10.4 **Frequency of data collection**
Describe the frequency of data collection, including when safety data collection starts.

Not applicable

10.5 **Individuals reviewing the data**
Identify the individuals who will review the data. The plan might include establishing a data and safety monitoring committee and a plan for reporting data monitoring committee findings to the IRB and the sponsor.

Not applicable

10.6 **Frequency of review of cumulative data**
Describe the frequency or periodicity of review of cumulative data.

Not applicable

10.7 **Statistical tests**
Describe the statistical tests for analyzing the safety data to determine whether harms are occurring.

Not applicable

10.8 **Suspension of research**
Describe any conditions that trigger an immediate suspension of research.

Not applicable

11.0 **Risks**
List the reasonably foreseeable risks, discomforts, hazards, or inconveniences to the subjects related the subjects’ participation in the research. For each potential risk, describe the probability, magnitude, duration, and reversibility. Consider all types of risk including physical, psychological, social, legal, and economic risks. If applicable, indicate which procedures may have risks to the subjects that are currently unforeseeable. If applicable, indicate which procedures may have risks to an embryo or fetus should the subject be or become pregnant. If applicable, describe risks to others who are not subjects.
Please keep in mind that loss of confidentiality is a potential risk when conducting human subject research and should be addressed as such.

Participation in interviews will require a commitment from the participants; however, these interviews will be scheduled at the convenience of each subject to reduce the inconvenience. Loss of confidentiality is a potential risk for the participants. Loss of confidentiality will not result in any negative consequences for the study participants.

12.0 Potential Benefits to Subjects and Others

12.1 Potential Benefits to Subjects

Describe the potential benefits that individual subjects may experience from taking part in the research. If there is no direct benefit to subjects, indicate as such. Compensation is not considered a benefit. Compensation should be addressed in section 14.0.

1. Teachers electing to participate in this study may benefit by having further opportunities to reflect on their professional practice, particularly in regards to their use of literacy and epistemic practices in supporting their students in science learning.
2. There are no direct benefits to students electing to participate in the study.

12.2 Potential Benefits to Others

Include benefits to society or others.

Policy changes in science education reflect an ambitious vision for science teaching and learning. This new vision of science teaching demands an increase on the role of teaching practices that support the need for equitable science education, which provides opportunities for all students to have access to STEM related careers. A large component of this work involves taking an integrated approach to teaching science so that students develop an understanding of the literacy practices needed to make sense of and communicate ideas in science related fields. However, policy documents in both science education and English Language Arts does not provide a framework for teachers on how to integrate literacy practices with sound science instruction. Teachers who seek to incorporate the literacy rich learning opportunities for their students in science are on their own for developing best practices in supporting their students.

This research is intended to examine how experienced teachers think about and use literacy and epistemic practices to support their students in sensemaking in science. Information gained from the study will help inform teaching practices as they relate to integrating literacy and epistemic components in elementary science, as well as potentially shaping recommendations for policies on the use of disciplinary specific literacy aspects of science. Insights from this study will help educators determine what it means to enact science teaching practices that have alignment with literacy rich science learning opportunities for students, helping to meet the demands of equitable science learning in elementary classrooms.

13.0 Sharing Results with Subjects

Describe whether results (study results or individual subject results, such as results of investigational diagnostic tests, genetic tests, or incidental findings) will be shared with subjects or others (e.g., the subject’s primary care physicians) and if so, describe how it will be shared.

Any written documents will be shared with participants upon request. Tentative results may be shared with subjects during interviews as a form of member check.
14.0  **Subject Stipend (Compensation) and/or Travel Reimbursements**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the amount and timing of any subject stipend/payment or travel reimbursement here. If there is no subject stipend/payment or travel reimbursement, indicate as not applicable.</td>
</tr>
<tr>
<td>If course credit or extra credit is offered to subjects, describe the amount of credit and the available alternatives. Alternatives should be equal in time and effort to the amount of course or extra credit offered.</td>
</tr>
<tr>
<td>If an existing, approved student subject pool will be used to enroll subjects, please indicate as such and indicate that course credit will be given and alternatives will be offered as per the approved subject pool procedures.</td>
</tr>
</tbody>
</table>

Not applicable

15.0  **Economic Burden to Subjects**

15.1  **Costs**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe any costs that subjects may be responsible for because of participation in the research.</td>
</tr>
</tbody>
</table>

Not applicable

15.2  **Compensation for research-related injury**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the research involves more than Minimal Risk to subjects, describe the available compensation in the event of research related injury.</td>
</tr>
<tr>
<td>If there is no sponsor agreement that addresses compensation for medical care for research subjects with a research-related injury, include the following text as written - DO NOT ALTER OR DELETE:</td>
</tr>
<tr>
<td>It is the policy of the institution to provide neither financial compensation nor free medical treatment for research-related injury. In the event of injury resulting from this research, medical treatment is available but will be provided at the usual charge. Costs for the treatment of research-related injuries will be charged to subjects or their insurance carriers.</td>
</tr>
<tr>
<td>For sponsored research studies with a research agreement with the sponsor that addresses compensation for medical care for research-related injuries, include the following text as written - DO NOT ALTER OR DELETE:</td>
</tr>
<tr>
<td>It is the policy of the institution to provide neither financial compensation nor free medical treatment for research-related injury. In the event of injury resulting from this research, medical treatment is available but will be provided at the usual charge. Such charges may be paid by the study sponsor as outlined in the research agreement and explained in the consent form.</td>
</tr>
</tbody>
</table>

Not applicable

16.0  **Resources Available**

16.1  **Facilities and locations**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify and describe the facilities, sites and locations where recruitment and study procedures will be performed.</td>
</tr>
</tbody>
</table>

Page 20 of 25 (V.04/27/2017)
If research will be conducted outside the United States, describe site-specific regulations or customs affecting the research, and describe the process for obtaining local ethical review. Also, describe the principal investigator’s experience conducting research at these locations and familiarity with local culture.

The study will take place in the participants’ classrooms at Easterly Parkway in State College, Pennsylvania. All recruitment meetings and interviews will happen on site at Easterly Parkway.

### 16.2 Feasibility of recruiting the required number of subjects

Indicate the number of potential subjects to which the study team has access. Indicate the percentage of those potential subjects needed for recruitment.

The research team has access to 52 (2 teachers that have an existing professional relationship with the Principal Investigator, and approximately 25 of their students) potential participants. 4% of potential participants are needed for recruitment.

### 16.3 PI Time devoted to conducting the research

Describe how the PI will ensure that a sufficient amount of time will be devoted to conducting and completing the research. Please consider outside responsibilities as well as other on-going research for which the PI is responsible.

The PI is a doctoral candidate and fixed-term faculty member in the College of Education. This research project is for her dissertation and therefore, she will be able to devote sufficient time to the project. A significant amount of time will be dedicated to collecting data during the 2018/2019 academic year. The bulk of data analysis will be completed after the academic year and when the semester, which requires teaching responsibilities, has concluded.

### 16.4 Availability of medical or psychological resources

Describe the availability of medical or psychological resources that subject might need as a result of their participation in the study, if applicable.

Not applicable

### 16.5 Process for informing Study Team

Describe the training plans to ensure members of the research team are informed about the protocol and their duties, if applicable.

The study team will conduct regular meetings to ensure each member of the team is informed about the protocol and progress of the study.

### 17.0 Other Approvals

#### 17.1 Other Approvals from External Entities

Describe any approvals that will be obtained prior to commencing the research (e.g., from cooperating institutions, community leaders, schools, external sites, funding agencies).

Not applicable

#### 17.2 Internal PSU Committee Approvals
Check all that apply:

☐ Anatomic Pathology – Hershey only – Research involves the collection of tissues or use of pathologic specimens. Upload a copy of HRP-902 - Human Tissue For Research Form on the “Supporting Documents” page in CATS IRB. This form is available in the CATS IRB Library.

☐ Animal Care and Use – All campuses – Human research involves animals and humans or the use of human tissues in animals

☐ Biosafety – All campuses – Research involves biohazardous materials (human biological specimens in a PSU research lab, biological toxins, carcinogens, infectious agents, recombinant viruses or DNA or gene therapy).

☐ Clinical Laboratories – Hershey only – Collection, processing and/or storage of extra tubes of body fluid specimens for research purposes by the Clinical Laboratories; and/or use of body fluids that had been collected for clinical purposes, but are no longer needed for clinical use. Upload a copy of HRP-901 - Human Body Fluids for Research Form on the “Supporting Documents” page in CATS IRB. This form is available in the CATS IRB Library.

☐ Clinical Research Center (CRC) Advisory Committee – All campuses – Research involves the use of CRC services in any way.

☐ Conflict of Interest Review – All campuses – Research has one or more of study team members indicated as having a financial interest.

☐ Radiation Safety – Hershey only – Research involves research-related radiation procedures. All research involving radiation procedures (standard of care and/or research-related) must upload a copy of HRP-903 - Radiation Review Form on the “Supporting Documents” page in CATS IRB. This form is available in the CATS IRB Library.

☐ IND/IDE Audit – All campuses – Research in which the PSU researcher holds the IND or IDE or intends to hold the IND or IDE.

☐ Scientific Review – Hershey only – All investigator-written research studies requiring review by the convened IRB must provide documentation of scientific review with the IRB submission. The scientific review requirement may be fulfilled by one of the following: (1) external peer-review process; (2) department/institute scientific review committee; or (3) scientific review by the Clinical Research Center Advisory committee. NOTE: Review by the Penn State Hershey Cancer Institute Scientific Review Committee is required if the study involves cancer prevention studies or cancer patients, records and/or tissues. For more information about this requirement see the IRB website at: http://www.pennstatehershey.org/web/irb/home/resources/investigator

18.0 Multi-Site Research

If this is a multi-site study (i.e., the study will be conducted at other institutions each with its own principal investigator) and you are the lead investigator, describe the processes to ensure communication among sites in the sections below.

18.1 Communication Plans

Describe the plan for regular communication between the overall study director and the other sites to ensure that all sites have the most current version of the protocol, consent document, etc. Describe the process to ensure all modifications have been communicated to sites. Describe the process to ensure
that all required approvals have been obtained at each site (including approval by the site’s IRB of record). Describe the process for communication of problems with the research, interim results and closure of the study.

Not applicable

18.2 Data Submission and Security Plan
Describe the process and schedule for data submission and provide the data security plan for data collected from other sites. Describe the process to ensure all engaged participating sites will safeguard data as required by local information security policies.

Not applicable

18.3 Subject Enrollment
Describe the procedures for coordination of subject enrollment and randomization for the overall project.

Not applicable

18.4 Reporting of Adverse Events and New Information
Describe how adverse events and other information will be reported from the clinical sites to the overall study director. Provide the timeframe for this reporting.

Not applicable

18.5 Audit and Monitoring Plans
Describe the process to ensure all local site investigators conduct the study appropriately. Describe any on-site auditing and monitoring plans for the study.

Not applicable

19.0 Adverse Event Reporting

19.1 Reporting Adverse Reactions and Unanticipated Problems to the Responsible IRB
By submitting this study for review, you agree to the following statement – DO NOT ALTER OR DELETE:

In accordance with applicable policies of The Pennsylvania State University Institutional Review Board (IRB), the investigator will report, to the IRB, any observed or reported harm (adverse event) experienced by a subject or other individual, which in the opinion of the investigator is determined to be (1) unexpected; and (2) probably related to the research procedures. Harms (adverse events) will be submitted to the IRB in accordance with the IRB policies and procedures.

20.0 Study Monitoring, Auditing and Inspecting

20.1 Auditing and Inspecting
By submitting this study for review, you agree to the following statement – DO NOT ALTER OR DELETE:
The investigator will permit study-related monitoring, audits, and inspections by the Penn State quality assurance program office(s), IRB, the sponsor, and government regulatory bodies, of all study related documents (e.g., source documents, regulatory documents, data collection instruments, study data etc.). The investigator will ensure the capability for inspections of applicable study-related facilities (e.g., pharmacy, diagnostic laboratory, etc.).

### 21.0 Future Undetermined Research: Data and Specimen Banking

If this study is collecting identifiable data and/or specimens that will be banked for future undetermined research, please describe this process in the sections below. This information should not conflict with information provided in section 9.1.1 regarding whether or not data and/or specimens will be associated with identifiers (directly or indirectly).

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
</table>
| 21.1 | **Data and/or specimens being stored**  
Identify what data and/or specimens will be stored and the data associated with each specimen.  
Not applicable |
| 21.2 | **Location of storage**  
Identify the location where the data and/or specimens will be stored.  
Not applicable |
| 21.3 | **Duration of storage**  
Identify how long the data and/or specimens will be stored.  
Not applicable |
| 21.4 | **Access to data and/or specimens**  
Identify who will have access to the data and/or specimens.  
Not applicable |
| 21.5 | **Procedures to release data or specimens**  
Describe the procedures to release the data and/or specimens, including: the process to request a release, approvals required for release, who can obtain data and/or specimens, and the data to be provided with the specimens.  
Not applicable |
| 21.6 | **Process for returning results**  
Describe the process for returning results about the use of the data and/or specimens.  
Not applicable |

### 22.0 References

List relevant references in the literature which highlight methods, controversies, and study outcomes.


EXEMPTION DETERMINATION

Date: June 29, 2018
From: Philip Frum,
To: Lee Anna Hooper

<table>
<thead>
<tr>
<th>Type of Submission:</th>
<th>Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Study:</td>
<td>Small Group Discourse to Support Literacy and Epistemic Practices for Sensemaking in K-5 Science</td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td>Lee Anna Hooper</td>
</tr>
<tr>
<td>Study ID:</td>
<td>STUDY00009944</td>
</tr>
<tr>
<td>Submission ID:</td>
<td>STUDY00009944</td>
</tr>
<tr>
<td>Funding:</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
| Documents Approved: | • Ethnographic Field Notes_Hooper Dissertation.docx (1), Category: Data Collection Instrument
• HRP 591_IRB_Hooper Dissertation_V2.pdf (2), Category: IRB Protocol
• Student Interview Protocol_Hooper Dissertation.docx (0.01), Category: Data Collection Instrument
• Teacher Interview Protocol_IRB_Hooper Dissertation.docx (0.01), Category: Data Collection Instrument |

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are **not** required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

Changes to exempt research only need to be submitted to the Office for Research Protections in limited circumstances described in the below-referenced Investigator Manual. If changes are being considered and there are questions about whether IRB review is needed, please contact the Office for Research Protections.

We would like to know how the IRB Program can better serve you.
Please fill out our survey; it should take about a minute: [https://www.research.psu.edu/irb/feedback](https://www.research.psu.edu/irb/feedback).
Penn State researchers are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within CATS IRB (http://irb.psu.edu).

This correspondence should be maintained with your records.
August 22, 2018

Mr. Vern Bock
Assistant Superintendent
State College Area School District

Dear Mr. Bock,

Please accept this letter of support for LeeAnna Hooper who is seeking to conduct her dissertation study in a second and third-grade classroom in Easterly Parkway Elementary school during the 2018-2019 academic year. Ms. Hooper is currently a doctoral student under my supervision in the College of Education at Penn State University. I have known Ms. Hooper since she began her doctoral program in 2015. She is a former elementary school teacher and is currently teaching in our joint Professional Development School.

As she works closely with SCASD teachers, Ms. Hooper has a working relationship with the two teachers with whom she hopes to conduct her study. She has observed their classrooms and co-taught our elementary science teaching methods course with them. This working relationship and trust is important so that the SCASD teachers are aware of the nature and type of research Ms. Hooper hopes to complete. She plans to study the intersection of science and literacy practices, by identifying ways that learning language support science, and ways that science can engage students in purposeful activity through language. Central to science learning is the ability to make sense of natural phenomena and develop facility with the discourse around the science concepts.

I have reviewed LeeAnna’s data collection plans and I will continue to monitor her activities. As with all research conducted at Penn State, her study was approved by our Institutional Review Board for the study of human subjects. This plan includes putting in place safeguards for the SCASD teachers and students, and making these safeguards known to all participants and in the case of children, their parents. Furthermore, I believe the results of the study will be of interest to the participating teachers and other educators in the SCASD and beyond.

Ms. Hooper participates in a research group led by me. Over the years, I have been able to observe her in this and other settings. She is respectful of others, insightful in her understanding of education, and generous in sharing her ideas. I have full confidence that she will conduct the study with integrity and respect. Ms. Hooper has my highest recommendation. I would be happy to elaborate further or visit your office for consultation if you are in need of additional information.

Sincerely,

Gregory J. Kelly
Mr. Vern Bock  
Assistant Superintendent  
State College Area School District

Dear Mr. Bock,

Please accept this letter of support for LeeAnna Hooper who is seeking to conduct her dissertation study in our second and third-grade classrooms in Easterly Parkway Elementary School. Ms. Hooper is currently a co-instructor in the Professional Development School science methods class with us. We worked extensively with Ms. Hooper last year in the same role.

LeeAnna hopes to examine how literacy practices are incorporated into science teaching within our classroom context. We both will be working alongside her as we look at how both reading and writing are utilized in various ways to enhance student science learning. Through reading nonfiction texts that compliment our units of study, we will observe what impact literacy has on content knowledge and application. We also hope to gauge the impact of using science journals as a space where children can unpack their thinking about what they have investigated and form cohesive scientific understandings.

Ms. Hooper has proven to be a colleague who has positively impacted our science teaching practices from co-instructing science methods. Not only is she extremely knowledgeable about best teaching practices for elementary children, she is collaborative, professional, and thoughtful. We believe having her in our classrooms will improve science teaching and learning for students. We are eager to learn alongside LeeAnna. Ms. Hooper has our highest recommendation. We are happy to discuss any questions or thoughts.

Sincerely,

Colleen McCracken & Deana Washell