Scaffolding & Fading: Enhancing Literacy Skills across a Curriculum to Achieve Mastery

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Abstract
This paper discusses the use of paragraph frames in a formative assessment activity within an introductory sociology course. The paragraph frame scaffolding allows the student to be a more informed and engaged learner in lower level courses and feel success with their introductory summary writing. This self-confidence allows the student to move forward into no longer being reliant upon paragraph frames or others (peers/instructors). The *Sociology in the News* activity incorporates scaffolding and fading via the use of a similar activity across the curriculum. The use of the paragraph frames focuses on mastery of information literacy, and accommodates student needs through effective instruction (using paragraph frames). This allows for retention, progression, and matriculation of students. The sociology curriculum is discussed via the use of scaffolding and fading based on Vygotsky's scaffolding concepts within the student's zone of proximal development, using paragraph frames across a curriculum, using the concept of IRMA level of ability (Introduce, Reinforce, Mastery, and Assessment) in formative assessments. As universities are focusing general education assessment of students, particularly Post-Covid19, information literacy is a skill that is can be assessed using IRMA level of ability. Literacy skills are particularly important in moving the students toward life-long learning and understanding how information is situated from a social situated perspective as well as the production from a scholarly standpoint.
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1. Introduction
Paragraph framing is a strategic component in instruction, with instructors using the technique as a way to assist students develop, and improve their summary writings or answers to test questions. Within the classroom, framing, sentence starters, and signal words from the instructor can assist students toward a reminder to "ramp up the level of language used in the classroom" (Herrmann, n.d.), thus improving the quality of their response.

Another aspect of the above mentioned techniques is that they can be used at various proficiency levels of literacy (Herrmann, n.d.), which is often seen within a college classroom, particularly those with an access mission or community college. Additionally, as many universities, include elite schools, allowed for entrance into college without standardized tests scores during the pandemic, and for those who were graduating or in high school during the pandemic, school closures may have left them unprepared for college readiness (Dennon, 2022). Research indicates that this could leave a generation of young people being unprepared for college

readiness due to the loss of in-person class, online learning, and pandemic closures (Dennon, 2022). Recent research shores up this concern noting that for students of color, the gap was 3-5 months behind in both math and reading, with white students being behind as well but less of a gap (1-3 months) (Dorn, Hancock, Sarakatsannis, & Viruleg, 2020).

As a Socratic teaching method, prompting guides the student to the answers by continuously asking question after question in order to push the student to a deeper level of the course's concepts and themes. This method, while primarily used in graduate school, provides support in the development of complex cognitive skills (Taylor, 2006), can assist in the development of critical thinking skills, and forces students to consider the weak links in an argument or the weak link back to the class material.

Within curriculum assessments it is imperative to consider each course as a sequence within the curriculum, making sure to incorporate both content and processes which are related to specific discipline competencies. The underpinnings should incorporate the competencies that lead to graduation as well as ensure that the goals are attainable. The foremost goal and objective in most curriculums is communication competencies that often include public speaking, reading/writing, and information literacy. Information literacy is the ability to "recognize when information is needed and have the ability to locate, evaluate and use the needed information" and "in creating new knowledge and participating in communities of learning" (American Library Association, 2015). Thus, information literacy, critical and creative thinking, and written/oral communication are paramount to both intellectual and practical skills needed for college and careers.

2. Sociology Program Outcomes & Assessment Activity (SiTN)

Two of the university sociology programmatic outcomes, are based on communication and on problem solving, which includes communication within the discipline as well as application of knowledge.

Communication: Students will be able to communicate sociological knowledge in the discipline in appropriate oral, written, and graphic form.

Problem Solving: Students will be able to apply "sociological imagination," sociological theories, and concepts to analyzing current events, political, economic, and cultural news from reputable news or scholarly sources.

Utilization of scaffolding and fading across a curriculum is limited in the research. However, what is known is that providing structure in a curriculum, as well as providing the ability to accommodate student needs through effective instruction (using paragraph frames) is paramount to retention, progression, and matriculation of students. Effective instructional scaffolding can be cross curriculum as an intentional activity for formative and summative assessment. Thus the activity *Sociology in the News* (SiTN), using paragraph framing was initially developed as a formative assessment for an introductory sociology course, and would later transfer to a formative assessment in other sociology courses.

2.1 Paragraph Frames

Paragraph frames are often used within the K12 curriculum in order to assist students in learning to read and promote comprehension. Nichols (1980) notes the use of paragraph frames (Uries, et al., 1977) in high school to assist students in summaries and book reviews which are often the major areas of concern (p. 229). Paragraph frames are outlines or templates that are constructed often by the instructor, allowing for a model for the student to follow. They are regularly used as short writing practices and can later be incorporated into more difficult assignments. Paragraph frames are used as "starter" sentences for students who state that they are having difficulty beginning the writing process and are also used for remedial students. While this has been our experience as professors, it is also documented (Lewis, Wray, & Rospigliosi, 1994) where paragraph frames are used as a framework for students with literacy and learning difficulties, and prevents the student from feeling failure prior to the beginning of the exercise (p. 533). Teachers found that using paragraph frames brought non-participating students into active participation, and increased their pass rate (Nichols, 1980, p. 231).

A psychology redesign project utilized paragraph framing as a note-taking method for an introductory psychology course in order to increase retention among first generation and freshman students at a Deep South university (Brown & Brown, 2006). The university offered entrance to all students who were high school graduates of the county school system, the largest in the state, which included over 80 schools, 60k students, and 10k teachers/administration/staff.

Additional research in paragraph frames notes that incorporating scaffolding and paragraph frames allows the student to begin to feel self-confident in their writing ability, and thus allows the student to move toward independent writing and lower reliance on the frame (Lewis, Wray, & Rospigliosi, 1994). After fading the scaffolding, the "help cards," or the *procedural facilitation* (Scardamalia & Bereiter, 1983) were available if needed.

3. Sociology in the News (SiTN) and Paragraph Frames

SiTN is constructed using the paragraph frame work conducted by Ouellette-Schramm (2015), as well as Scardamalia and Bereiter's (1983, 1985) work by means of *procedural facilitation* and is grounded in Zwiers' (2008). Pea (2004) notes that Scardamalia and Bereiter (1983, 1985) created the instructional method of *procedural facilitation* or the use of note cards which included prompts, created to scaffold writing activities and were explicit models of higher forms of writing (p. 428).

SiTN allows students to acquire the knowledge on construction of a summary article using a pre-constructed paragraph frame directly from Ouellette-Schramm's (2015) article. The frame construction further enhances the students' capability to link a summary to outside scholarly material, a sociological theory, or their text. Even as the activity is used within introductory sociology courses as an assessment tool, it also assists the students in becoming comfortable writing summaries, researching scholarly materials, and learning how to communicate from a more academic standpoint. SiTN was created to assess the previously mentioned program outcomes of *communication* and *problem solving*.

Within the introductory sociology course, the paragraph frames are mandatory and each paper submitted must adhere to a pre-formatted document, which requires a hyperlink to the article. The students are alerted to the fact that if the hyperlink is not included the student will not receive a grade until the correct format is utilized. The purpose of the formatted document is two-fold. First, the format makes it easier for the professor to grade and to conduct formative assessment, and the hyperlink provides a way to check for a copy/paste model that some beginning college students bring forward from high school. Additionally, the three paragraph structure is not as daunting for the student, as they must also determine what portion of the article is important and link it back to the textbook material. The linkage is an essential skill which will be required in the creation of theoretical applications in a sociological seminar and theory course, as well as linkage to real world experiences and situations.

3.1 Scaffolding and Fading

The term "scaffolding" is defined as the assistance the individual (student) requires (Wood & Midleton, 1975). Scaffolding is "providing assistance ranging from direct assistance by an adult (professor/instructor/knowledgeable other), to pairing children with peers who have already mastered the skill, which we refer to as peer-to-peer learning" (Brown, Niles-Yokum, & Baker, 2020, p. 32). As the student achieves or reaches mastery of the new skill, the scaffolding is removed (fading) and the student may then provide peer-to-peer assistance to others.

Scaffolding also challenges the purpose of education and focuses not on Locke's blank slate or tabula rasa concept, but a facilitation-based process. Bruner (1961) posits that education is not to impart knowledge to students/children but to facilitate their ability to think critically, and develop problem solving skills which then allow the student to utilize the skills across other situations. In other words, the learning is an active process building on prior learning, and allows for a construction of the student's repertoire of knowledge and skills.

Bruner's (1960) learning concept stipulates that "any subject can be taught effectively in some intellectually honest for to any child at any stage of development" (p. 33). While Bruner is referring to children, we can infer that this extends to students of any age, using the same processes. As Bruner (1960) communicates the concept of the spiral curriculum, material can be taught by teaching the complex as simple, breaking down each idea into a simplistic task, so teaching skills at gradual difficulty, finally leading students to be able to not only complete the complex task by themselves but be able to transfer this ability to other subjects/events where complex problem solving is needed.

For us, the scaffolding using the paragraph framing is similar to Bruner's (1978) statement whereby scaffolding "refers to the steps taken to reduce the degrees of freedom in carrying out some task so that the child [student] can concentrate on the difficult skills she [he] is in the process of acquiring" (p. 19). As Benson (1997) notes, "scaffolding is actually a bridge used to build upon what students already know" which can then assist them to determine something that is unknown. If scaffolding is done correctly then the student is given a new tool to use for success rather than a hindrance. Bruner and Vygotsky both focus on the concept of assistance or scaffolding, where both terms scaffolding and ZPD are often used interchangeably.

SiTN follows the ideas of Bruner and Vygotsky by using support in the forms of facilitator presence, video assistance, and peer-to-peer learning to allow the student to reach higher levels of literacy mastery. Writing a summary paper on a current news article follows the aims of both. The assignment is broken into a small manageable task by simplifying the process using paragraph framing and three paragraphs. The students are given encouragement/motivation with the instructor relaying the information that the activity will be a progressive activity throughout the curriculum. During grading the focus is on highlighting the important tasks needed to complete the assignment, and again giving encouragement in the development of the skill, as well as providing models of excellence from other students which can be mimicked.

The use of both material scaffolds (models of excellence, video assistance) and social scaffolds (peer-to-

peer learning, facilitator presence), allows for students' needs to be met on a more individual basis. As Martin, et al. (2019) note that distributive scaffolding, the use of various supports such as tools, routines, and activities are being used within classrooms, and that written prompts or paragraph frames are also incorporated alongside the other support (p. 70).

Fading within scaffolding and support is the removal of the scaffolding and support systems when the student is able to perform the task or the activity without aid. West, Swanson, and Lipscomb (2019) define fading as "the process of gradually removing the scaffolding that was put into place for the child (student) until he internalizes the information and become a self-regulated, independent learner" (p). Pea notes, procedural facilitation was structured as a "temporary adjunct in the writing process" and was never meant to be sustaining (2004, p. 428).

3.2 Vygotsky's Theory on Child Cognitive Development

The use of scaffolding and fading is based on Vygotsky's scaffolding concepts in the student's zone of proximal development. Using paragraph frames across a curriculum assists college students achieve mastery in literacy prior to graduation. The paragraph frame scaffolding/fading allows the student to be a more informed and engaged learner in lower level courses, thus become more successful in literacy (reading/writing) in the upper level courses, and achieving the final goal of graduation.

Lev Vygotsky theorized that children are active participants within their own cognitive development, and that the cognitive development is a result of interaction with their peers as well as their interaction, collaboration, and guidance from adults (Brown, Niles-Yokum, & Baker, 2020, p.31). Vocabulary forms a central element of proficiency in language, providing much of the basis for the students' speech, reading, and writing (Richards & Renandya, 2002, p. 255), thus to improve writing skills, students must master vocabulary, an essential for writing well.

Mora-Flores and Kaplan (2022) discusses how literacy can be used across curriculums by connecting language as well as using open-ended learning. As they note, when using limited thinking we are not expanding a student's language acquisition, nor are we practicing critical or creative thinking (p. 111). The authors note that a major component of a discipline is to provide a vocabulary based upon that discipline, as well as to assist the students in understanding how the vocabulary may hold different meanings in different disciplines, or the words may cross discipline boundaries (Mora-Flores & Kaplan, 2022, p. 112). SiTN allows students to search for sociological topics within their own interests and not just remain in a sociologically specific discipline. For example: a SiTN on marriage and family from a sociological, social work, psychological, educational, or even an anthropological perspective is acceptable in the course, and does not limit but expands the ability for the students to search within interdisciplinary learning. As Mora-Flores and Kaplan state, "interdisciplinarity can be introduced and taught more readily when the skills or concepts of one subject are viewed as the key to create connections to understand another subject" (2022, p. 112).

3.3 Reading Comprehension, Language, and the Zone of Proximal Development

SiTN not only relies on writing but also relies on the student's ability to read and comprehend the author's meaning and message of the article. As Snow (2002, p. 1) acknowledges reading comprehension is the process of extracting and deconstructing meaning through the interaction and involvement with the written language. Alyousef (2005) notes that it is the "teacher's responsibilities to motivate reading by selecting the appropriate materials and especially for those at the early stages of learning" (p. 148), additionally adding that it is important to allow students to select texts that interest them. Hedge (2003) notes "each learner will have different strengths to build on and different weaknesses to overcome" (p. 205).

Additionally language is a key component to Vygotsky's theory, and as instructors regularly experience, language is often a hindrance for those who are first generation college students or lower socio-economic backgrounds. Since our language is developed through use with our families, our social groups and our cultural experiences, students who have limited interactions or limited interactions with adults and others who have great vocabulary mastery, often struggle to write summaries, which is where the paragraph frames and the scaffolding of instruction comes into play.

However, to understand Vygotsky's cognitive development, you must understand ZPD or Zone of Proximal Development, which is defined as the distance between a child's "actual developmental level as determined in independent problem solving" and the higher level of "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (1978, p. 86. The adult guide or the capable peer from Vygotsky's or Bruner's perceptive is the "more knowing/knowledgeable other" and the "other" assists the student in navigating the "series of learning experiences" (Thompson, 2015, p. 4; Wood, Bruner, and Ross, 1976). As Thompson (2015) says, it is the space between what the student knows and what the student cannot complete alone that is the ZPD, and if we continue to teach within a student's comfort zone, or their zone of actual development, the student may become bored due to the work being too easy.

4. SiTN across the Curriculum

As students' move through the curriculum, they will encounter the same activity with modifications as they progress from 1000 level courses to the 4000 level courses. Each subsequent course in sequence changes the use of paragraph frames and scaffolding, moving from mandatory use of the paragraph framing and the ability to collaborate with other students, to "should use" and then to 'optional' or no longer rely on the frames for their work; the use fades across the three or four years of study.

Linking scaffolding and fading to the IRMA Level of Ability is noted in Brown and Medlin (2018), Brown, Bennett, and Medlin (2019), as well as Brown, et al (2019). IRMA level of ability (Introduce, Reinforce, Mastery, and Assessment) allows for an exploration of the depth of learning within the program, as well as individual and program's mastery of literacy skills. IRMA is associated with the scaffolding that occurs with mastery of skills at the lower level courses (Introduce/Reinforce), moving into fading as they advance to upper level (Mastery) and graduation (Assessment). See Figure 1.

SiTN allows for the program to benefit from the continuous formative assessments at the course level and promotes continued assessment of the program outcomes in communication and problem solving as well as gathering evidence for accreditation and students' quality of learning. The use of consistent self-evaluation allows for the instructor to adjust the course for an increase in student learning. Moreover when considering accreditation, programmatic assessments should be faculty/instructor driven and designed, not top down administration designed. Thus, the faculty's' creativity and assessment is beneficial for the student, the institution, and the individual faculty member.

5. Conclusion and Future Research

Brown and colleagues (2020) state that for a student to learn a new skill such as writing the student will need assistance to acquire the skill (p. 32). Vygotsky suggest that teachers use a variety of resources, as well as with assistance from peers or a teacher/facilitator, as the ZPD is a range from what the individual can do or learn to do without assistance to what they can achieve with assistance (Brown, Niles-Yokum, and Baker, 2020, p. 32). As Vygotsky notes (1978), "learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers" (p. 90).

By understanding the various zones (Actual, Proximal, Potential) we can create scaffolding opportunities allowing the students success and move across the zones. But hitting the sweet spot in between the zone of actual development and the zone of potential development we are within Vygotsky's ZPD, which allows the student to be challenged but be able to adjust to different levels of support from the "more knowing other" (Thompson, 2015, p. 5).

5.1 Challenges and benefits

There are challenges and benefits associated with scaffolding, fading, and paragraph frames. First and foremost is the time element. The initial construction of paragraph frames, calculating which activity is in need of scaffolding and the grading of the work is time consuming. Another challenge particularly for us as instructors is to give up the control over the fading if the student needs to move beyond the paragraph frame earlier than others. This takes practice in knowing which students are ready and which students are not in the "sweet spot" of ZPD. However, the beauty of using paragraph frames and scaffolding is the ability to return to the IRMA model, and either go down to reinforce, or even back down to introduce. Larger courses are more difficult as you must know your learners and be able to evaluate their individual needs. But if you focus on the paragraph framing and the formatted paper then it is much easier to evaluate the needs. Benefits align with the individual needs, where you can use a more individualized instruction of peer-to-peer, video assisted writing (differentiated instruction), and if you are prepared, the activity can be delivered more efficiently, as you move further along in the process.

5.2 Future Research Directions

Previous research has sought to determine the use of paragraph frames from a Readability Flesch-Kincaid Grade level via Microsoft® Office Word (Brown, Bennett, Lovett, & Ham, 2019). Future research will use the same methodology, and will seek to determine if the paragraph frame's scaffolding/fading allows students to become more successful in literacy (reading/writing) in the upper level courses, and thus achieve graduation.

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