Scaffolding Strategies in Academic Writing Employed by Thesis Advisers in the Graduate School

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Abstract

Instructional scaffolding is recognized as a vital component in advanced academic writing in higher education institutions. In particular, this paper described the task-enabling support provided by the graduate school of Bukidnon State University to ensure quality research outputs. Results of the study showed that thesis advisers provide an engaging research environment characterized by a high level of challenge and support; that scaffolding strategies are diverse in terms of mode, manner and means; that the effectiveness of these scaffolding strategies is perceived based on the advisees' writing needs; and that the progression of scaffolding varies depending on the advisees' abilities.

Keywords: Academic writing, Zone of Proximal Development (ZPD), task-enabling support, level of scaffolding, scaffolding strategies, scaffolding progression

Introduction

The current thrust on quality research in higher education has generated interest among scholars in recent years. Bukidnon State University, in its effort to intensify this area endeavors to boost the research competencies of both students and faculty across the different levels. Research colloquia, forums, seminars and trainings have been conducted to immerse the stakeholders with relevant research trends, topics, and tasks. While the institution has actively pursued this undertaking, one central issue needing further investigation is the kind of instructional scaffolding that faculty render to students to ensure scholarly outputs. Researchers have invoked this concern during the Philippine Association of Graduate Education's (PAGE) conference who recommended that thesis advising strategies be examined (Cimene, 2011). Accordingly, it is inherent for mentors to conscientiously guide their mentees to upgrade their research capability.

One of the challenges that confronts thesis advisers in the graduate school of Bukidnon State University is assisting their advisees in the various stages of research paper writing. Most of these students find this major requirement complex and demanding. The lack of ability in generating, developing, clarifying and organizing their ideas in an academically persuasive manner is evident in their writing outputs. Researches have pointed out some causes of this problem which include the lack of explicit and systematic instruction in academic writing for graduate students (Harris, 2006) and the lack of advisers' support (Larkin, 2001). While they have a subject in *Methods of Research*, this tends to concentrate on research designs, techniques, statistics, and the like. Unlike in other universities where advanced academic writing is a prerequisite, the graduate school curriculum in BSU does not include this course. It is presumed that students admitted in a graduate level can do scholarly writing. Although many of them enter their programs with basic writing skills, these do not necessarily transfer to research writing competencies like writing annotations, comparative summaries,

literature review, critiques, proposals, reports, and abstracts.

As graduate students focus on understanding new concepts and high-order critical thinking tasks, their writing often suffers. Casanava (2002) aptly points out that learning how to write for academic purposes poses a 'clueless' challenge because the rules are almost all implicit. Students who are required to write academic papers such as a thesis for the first time, are faced with a number of unfamiliar tasks. Consequently, the inadequacies in graduate level writing necessitate the thesis advisers' instructional support during the entire scholarly writing process. For many graduate students who are novice researchers, they need specific and thorough scaffolding in this area.

Review of Related Literature

Even as experts in academic writing have found scaffolding as an essential instructional strategy, little research has been undertaken to explore this topic. The survey reveals that most studies on scaffolded instruction revolve around reading comprehension, mathematical problem solving, web designing and other content areas (Lapkin & Swain, 2000; Gaela & Nair, 2008). Within the discipline of academic writing, very few studies have been conducted on scaffolding and these were mainly conducted in basic and tertiary education levels. In Bukidnon State University, no research on scaffolding strategies in academic writing has been conducted yet.

These few studies corroborate the claim that with the scaffolding approach, there were significant increases in students' academic writing competence as well as in their level of engagement in learning. McRae et al. (2000) have found that students advanced from primary level writing skills (National Benchmark level 2) to upper primary (National Benchmark level 4-5) in less than a school term. Scaffolding enables the students to read and write complex texts with support of their teachers and peers. Another study conducted was contrasting the students' writing on entry to Koori Centre programs and their written work following the scaffolding literacy process. Rose (2002) found that students who previously struggled to write, eventually developed a growing awareness of how to organize their essays, use information from readings, analyze and discuss this information and use the objective style of academic language to express their judgments.

In Yanghee and Jiyoung's (2005) study, it was found that through scaffolding writing instruction, Korean students were able to understand and reproduce the rhetorical patterns they needed to express their ideas. Writing teachers helped students become more successful writers of academic texts and helped them understand the social functions of genres and the context in which these genres were used. Also, the writing teachers employed diverse types of feedback such as teacher-student conferencing and peer-feedback.

A qualitative study conducted by Gerakopoulou (2011) investigated and described scaffolding strategies used in Content and Language Integrated Learning (CLIL) in high school. Key findings revealed that teachers tend to use body language and contextualization to scaffold their instruction. Other predominant strategies included repetition, elicitation, questioning and facilitating students' participation.

The study of Tas and Forsythe (2010) analyzed and evaluated the effectiveness of support strategies for Post Graduate Certificate in Education (PGCE) students who needed to write assignments at master's level. The scaffolding strategy found to be most effective was the use of peer assessment with the subject tutor's assessment of the synopsis. Other forms of support suggested by the students were tutorials in small groups, marking exemplar assignment, workshop on professional writing, reading peer's papers, and a session on finding research literature.

In an earlier study, Haworth, Perks and Tikly (2009) found that PGCE students needed scaffolding for writing assignments, guidance on writing, providing formative assessment of assignments, students reading and discussing academic and professional articles, tutorials,

sessions on using the library, and support through a Virtual Learning Environment (VLE).

Although the foregoing studies have considerable evidence for establishing a link between the use of scaffolding and the students' writing competencies, they have been limited to basic academic writing tasks. None of these attempts has investigated whether this strategy is also operative for thesis writing in the graduate level.

Framework

The concept of scaffolding is drawn from the social learning theory of Vgostky (1978) and Bruner (1996) who conjecture that successful learning takes place through the zone of proximal development (ZPD), the area between what a novice can do independently and what she or he can do with assistance. With an expert's support, learners can accomplish tasks that they ordinarily cannot perform on their own. When they are learning new or difficult tasks, they are given the necessary help; however, as they begin to demonstrate task mastery, the assistance is decreased gradually in order to shift the responsibility from the teacher to the students. From this viewpoint, scaffolding is essentially an assisted accomplishment of complex tasks.

Apart from ZPD, Vgostky underscores the element of interaction in learning. It is posited that the acquisition of knowledge and skills is made possible through social interaction with others. In other words, scaffolding involves a two-way process where the teacher and the student collaboratively manage and resolve to learn challenges. It thus involves the active involvement of both participants as they work toward a common goal.

Corollary to the concept of ZPD is the creation of the engagement zone (EZ) in a teaching-learning environment (Mariani, 1997; Hammond, 2001; Gibbons, 2002). This involves different degrees of challenge and support marked by apprehension (high challenge without or with low support), convenience (support exceeds challenge), boredom (low challenge and low support), and engagement (high challenge and high support).

In the field of second language learning, scaffolding is espoused by Gibbons (2002) who firmly believes that scaffolding is necessary for the teacher to implement language learning. She advocates the use of mediation that requires the process of negotiating meaning (Wink & Putney, 2002) where both the teacher and student are equally and jointly committed to the management and completion of a complex task at hand. Mediation in language teaching must take a variety of modes- interactional, inscriptional or indexical. Interactional scaffolding refers to mediation involving discourse strategies such as questioning, making clarification, prompting, cueing, etc. (Wells, 2002; Michell & Sharpe, 2005; Harris, 2006). Inscriptional support mediates texts by providing a graphical representation of ideas (Cobb, 2002). Indexical scaffolding mediates physical signs to enhance and sustain meaning (Erickson, 1996).

Scaffolding can be further categorized according to the manner of mediation, namely, representational and procedural. The former requires facilitating students' understanding of a task while the latter entails helping the students understand how to perform a task. Specific scaffolding strategies for language classrooms have been recommended. These are modeling, bridging, contextualization, schema-building, text representation, and metacognitive development (Walqui,1995; Ovando, Collier & Crombs, 2003) . First, teachers need to model writing skills and procedures. Examples of academic papers such as reports, essays, research papers or visual representations like charts, graphs, and diagrams can be used as models. Secondly, bridging consists of helping the students make personal connections between their individual experiences and academic content. Such connection turns distant academic knowledge into concrete, personalized, and tangible understandings that are memorable to students. To make the bridging explicit, teachers must

frame appropriate questions or introduction.

Thirdly, teachers must help the students organize recognizable patterns or schemas of knowledge. Examples of schema-building scaffolding include the use of graphic organizers, charts, matrices, and word webs. However, in order for these scaffolds to work, we need to be explicit about the reasons behind them. Fourthly, teachers can scaffold by helping the students recognize the patterns, norms and rules of academic writing. Finally, teachers must continually expose the students to writing strategies that would lead them in metacognitive analysis of their writing. Strategies like visualization, reflective essays, journals, vignettes, reflection-in-action, and self-assessment questionnaire foster metacognitive development.

Applying this concept to the current study, scaffolding in graduate level writing is perceived as a collaborative activity between an expert (thesis adviser) and a novice (advisee) working toward the completion of a major requirement in the graduate school- the thesis. Within this domain, scaffolding refers to the strategies in which the research task is broken down into stages and manageable steps, with the mentor guiding the mentee through the entire process, encouraging the latter to move to advanced levels of research capability. This configuration is further illustrated in the diagram below.

Figure 1 shows that an advisee engaged in thesis writing progresses in a continuum with two divergent points, from the *actual development level* (ADL) to the *potential development level* (PDL). The first phase represents the basic writing facilities, while the second phase the assisted accomplishment (Michell & Sharpe, 2005) of the final research paper. Notice that the distance between the two levels is the zone of proximal development. In graduate studies, this is applied to the period when explicit and scaffolded instruction is provided. This begins with the onset of thesis writing (Title Presentation and Stage 1-Thesis Proposal).

Initially, the adviser provides a *high level of support* (HLS) and gradually lowers (LLS) and/or withdraws this as the student moves toward independent control of the research task. Subsequently, the responsibility for research writing shifts from the expert to the novice. Thus, as the latter assumes more responsibility for his/her learning, the former provides less support. All through the process, both stakeholders work in partnership, actively interacting about and negotiating the complex demands of thesis writing. These include making annotations, summarizing, paraphrasing, synthesizing and reviewing related studies, theorizing, conceptualizing own

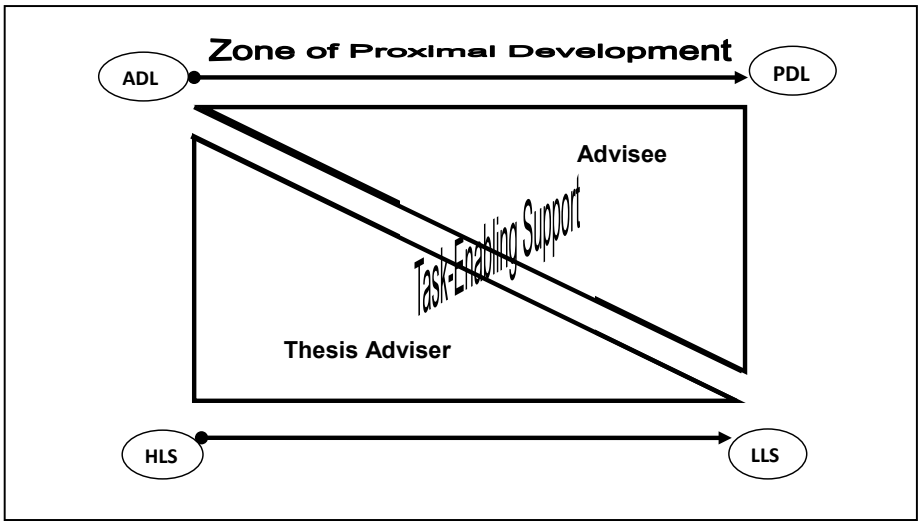

Figure 1. Elements of scaffolding in thesis writing

framework, drafting the thesis, abstracting, and publishing. With the strategic guidance of the expert through various scaffolding strategies, it is assumed that this novice will achieve higher levels of performance and ultimately independence at the end of the process.

Statement of Objectives

Considering the crucial role of scaffolding in thesis writing to graduate students, the researcher tried to investigate the kind of research support rendered by thesis advisers to their advisees in the graduate school of Bukidnon State University. Specifically, the study addressed the following questions:

1. What level of instructional scaffolding do graduate thesis advisers render to their advisees?
2. What scaffolding strategies are used among thesis advisers in the graduate school in terms of
    2.1. Mode,
    2.2. Manner, and
    2.3. Means ?
3. Which of the scaffolding strategies are perceived by advisees to be effective in thesis writing?
4. What progression of instructional scaffolding is followed by thesis advisers?

Methodology

This research employed both quantitative and qualitative research procedures to describe the scaffolding strategies employed by thesis advisers in the graduate school. Descriptive statistics was used where frequencies and percentages were presented. Data were collected through a survey (questionnaire), focus group discussions, and reflective essay. In determining the participants for this study, purposive sampling was employed. Subjects included 60 graduate students under the Educational Administration and English Language Teaching programs for SY 2011-2012 and SY 2012-2013. In terms of gender, there were more females than males. Most of the participants were 30 to 40 years old. Over half of them have been in the teaching profession for ten years. Majority of these participants were under the BSU-DepEd scholarship.

Prior to the conduct of the survey and FGD, the researcher addressed certain ethical issues to protect the professional relationship between the thesis advisers and their advisees. These included informed consent, confidentiality and anonymity. The researcher obtained informed consent from the graduate students by inviting (not forcing) them to participate voluntarily and informing them about the objectives and the methods of the research. Toward the end of the consent form and before the FGD, the participants signed statements of confidentiality. To ensure anonymity, the names of the thesis advisers were optional. Before the FGD, graduate students were also reminded not to reveal names.

After obtaining the consent of the participants, the researcher piloted a questionnaire to graduate students. There were two sections: section one was about the graduate students and their programs and section two elicited information about scaffolding strategies employed by their advisers, perception about the level of effectiveness of these scaffolding strategies and the degree of scaffold thesis advisers rendered.

Then the researcher validated the data through a series of focus group discussions. There were five FGD groups facilitated by the researcher with two research assistants who videotaped the entire process. Discussion prompts focused on the challenges or problems they encountered in thesis writing, the corresponding instructional support strategies, the extent and trajectory of scaffold they received from their advisers.

The subjects were also asked to do reflective essay writing about their thesis writing journey. This encouraged students to assess the factors which influenced their thesis writing performance and the conditions that influenced it.

Results and Discussion

The first question asked about the level of instructional scaffolding which graduate thesis advisers render to their advisees. Specifically, this examined the different degrees of challenge and support which characterized this academic exercise.

Table 1 shows the percentage of graduate students indicating the level of challenge and support that they received from their advisers. Almost half of the respondents indicate that they are subjected to a *high challenge and high support* learning environment in the course of writing their theses. This suggests that thesis advisees are put through a rigorous process but at the same time given the commensurate assistance resulting to a high level of engagement. This finding affirms Simbulan (2011) and Padua's (2010) assertion that a culture of mentoring and collaboration between faculty and students are crucial in the thesis writing process.

Table 1. *Graduate Students' Perception on the Level of Instructional Scaffolding Rendered by Their Thesis Advisers*

Items	%
High challenge without support	10%
High challenge with low support	27%
Support exceeds challenge	18%
Low challenge and low support	0%
High challenge and high support	45%

On the other hand, slightly over a quarter revealed that their thesis advisers posed *high challenge but provided them with low support*. This shows that the degree of instructional scaffold does not correspond to the immensity of the research work that advisees are expected to perform, thus, causing the advisees so much anxiety. Since most of the thesis advisees are neophyte researchers, they expect their advisers who they regard as experts to guide, assist and supervise them all throughout the writing process. However, the *high challenge and low support* condition could be attributed to the faculty's expectation that graduate work entails independent learners who can handle the rigors of thesis writing on their own. While this is a valid argument for this type of environment, Padua (2010) posits that *the adviser, who is knowledgeable about the ways of the university world, wields a considerable amount of power. The student, on the other hand, looks up to the adviser as someone who can teach the needed knowledge and skills.* It is within this co-regulated framework that scaffolding is hinged.

Further, a small number of advisees indicated that they received instructional assistance that went beyond what was needed. In this learning condition, the thesis advisers do the thinking, researching and even writing the thesis for the students, thus limiting the students' opportunity to undergo the process of thesis writing. While this practice may be helpful for those who especially struggle with thesis writing, this kind of learning environment may lead to overdependence and effortlessness.

Moreover, it is alarming to note that a group of advisees experienced a *high challenge without support*. Although the number is negligible, this practice is observed in the graduate school. As disclosed during the FGD, some thesis advisers would leave it to the panel to review and polish the thesis. However, Itaas (2013) underscored that the adviser is mainly responsible in the supervision of thesis writing. The fact that one accepts the role to be an adviser, it is expected that s/he performs the required duties and responsibilities.

The second question focused on identifying the scaffolding strategies used by thesis advisers in the graduate school in terms of mode, manner, and means.

Table 2 shows the scaffolding strategies utilized in the graduate school. As can be seen, two modes of scaffolding emerge: interactional and inscriptional. Subsequently, each mode is carried out in procedural and representational manners.

For interactional scaffolding, the top three procedural scaffolding means most frequently used are *task orientation, manuscript review*, *summary* and *critique*. These indicate that

Table 2. *Scaffolding Strategies Used by Thesis Advisers according to Mode, Manner and Means*

Mode	Manner		Means	Yes %	No %	Rank
Interactional	Procedural	1	Task Orientation	83% (50)	17% (10)	1
		12	Summary & Critique	78% (47)	22% (13)	3
		13	Annotation & Citation	72% (43)	28% (17)	4
		14	Data-Gathering Procedure	62% (37)	32% (19)	5
		24	Oral Presentation	58% (35)	35% (21)	6
		26	Manuscript Review	80% (48)	15% (9)	2
	Representational	3	Topic Identification	82% (49)	18% (11)	6.5
		4	Discussion of Thesis Exemplars	78% (47)	22% (13)	9.5
		5	Structural Analysis	77% (46)	23% (14)	11
		7	Problem Formulation	97% (58)	3% (2)	1
		8	Theory Selection & Conceptual-ization	88% (53)	12% (7)	3
		9	Clarification	85% (51)	15% (9)	4
		11	Discussion of Relevant Articles	67% (40)	33% (20)	13.5
		15	Consultation Session	70% (42)	30% (18)	12
		16	Feedback	95% (57)	5% (3)	2
		17	Questioning/ Probing	83% (50)	17% (10)	5
		18	Data Commentary	67% (40)	23% (14)	13.5
		20	Collaboration	80% (48)	20% (12)	8
		21	Research Logs	65% (39)	35% (21)	15
		22	Cues/Hints	78% (47)	22% (13)	9.5
		25	Prompts & Restatements	82% (49)	15% (9)	6.5
	Procedural	2	Work Plan	67% (40)	33% (20)	2
		6	Mind/Word Maps	90% (54)	10% (6)	1
Inscriptional		4	Thesis Exemplars	78% (47)	22% (13)	3
		8	Schema Construction	88% (53)	12% (7)	1
	Representational	10	Instrumentation	87% (52)	13% (8)	2
		11	Provision of Relevant Articles	67% (40)	33% (20)	5
		19	Data Presentation	68% (41)	18% (11)	4
		23	ICT Utilization	53% (32)	40% (24)	6

thesis advisers generally use discourse tools to assist their advisees in writing a thesis.

One particular discourse tool is task orientation in which advisers acquaint their advisees with the policies and conventions of thesis writing in the graduate school. This entails orienting them with the duties and responsibilities of the advisees across the three stages. Also, advisers teach them the most important features to consider for thesis writing style. Another important strategy done by advisers is evaluating the draft(s) page by page in terms of the content, organization, language, mechanics, and others. As shared by the students during the FGD, marginal notes containing critical comments, pointers and questions have greatly improved their manuscript. Markings and notes are perceived to be very helpful than a returned paper with no remarks at all.

Asking the students to summarize and critique articles and studies are also frequently used by thesis advisers. These discourse strategies are often done during literature search and review. After the approval of the research title, thesis advisers usually facilitate the critical analysis of published body of knowledge by requiring their advisees to write comparative summaries and critiques of previous research studies and articles.

The prevalence of discourse strategies suggests that the exchange of ideas between the advisers and the advisees about the fundamental processes generally provides the needed groundwork for thesis writing. Task orientation prior to the different stages of writing, teaching the processes of summarizing and critiquing related articles and studies, and providing manuscript feedback are interactional tools through which the advisees' writing needs can be accommodated. This supports Harris' (2006) proposition that communicating expectations, summary and critique writing and feedback provide the foundation for improved scholarly writing among graduate students.

In terms of interactional representational scaffolding, advisers help the students understand the task. Strategies such as *problem formulation*, *feedback* and *theory selection* and *conceptualization* are seen to be the most frequently used resources. At the onset of the thesis writing, advisers assist their advisees in defining the central focus of their study. This involves helping them narrow the problem and state the research questions and/or objectives of their study. This affirms Ibe's notion (2013) that thesis advisers should primarily create problem awareness and help the advisees frame the research questions.

Giving forthright and extensive feedback is another means of enabling the student writers. This involves the provision of prompts, markings and corrections to help the students polish their thesis. This strategy enables them to edit their thesis independently as time progresses. Responding to students' writings make the advisees conscious of the strengths and weaknesses of their research work. This corroborates the findings of Yang and Zhang (2010) whose study revealed that effective feedback fosters autonomy allowing the students to become self-regulated learners.

Thesis advisers also assist the students in developing the framework or anchorage of their study. This is usually done by first asking their advisees to do a comprehensive review of literature (theses and professional articles). From this review, the advisers guide the students in choosing relevant theories and concepts regarding the research problem under study.

Given these findings, it can be conjectured that thesis advisers in BSU are keen on facilitating their advisees' understanding of the research problem, content and language of their paper, and theoretical/conceptual anchorage. This supports the contention that scaffolding is a key element of cognitive apprenticeship whereby students problematize important aspects of their tasks in order to force them to engage with key disciplinary frameworks (Quintana, Reiser, Davis, Krajcik, Fretz, and Duncan, 2004).

Another mode of scaffolding that the data yield is inscriptional done in both procedural and representational manners. The former

utilizes work plans and mind maps. A work plan illustrates the start and finish dates of the thesis writing activities. Through this scaffolding means, the adviser is able to prompt students to schedule the research tasks, avoid undue delays and get them done within the scheduled dates.

Still another scaffolding means utilized by advisers especially during the pre-writing stage is mind mapping. Advisers use this to help their advisees in the research problem formulation. This involves diagramming ideas, words and concepts in order to find a workable research topic.

The use of graphical tools implies that thesis advisers scaffold the research process by helping the students make explicit the activities and ideas relevant to the research study. This affirms the notion that mentors can scaffold learning through task structuring (Quintana et al, 2004) and organizing recognizable patterns (Ovando, Collier & Crombs, 2003) .

Inscriptional-representational scaffolding involves schema construction, instrumentation and thesis exemplars. Although a framework does not always need a schematic presentation, this is found to be one of the most frequently used scaffolding means. A schema represents an iconic model of a study (Padua, 2013), hence, advisers feel the need to facilitate its construction. This scaffold prompts the advisees to identify measurable and non-measurable causes and factors, construct a logical graphical illustration of these variables and explain their relationship.

Another scaffolding means used by advisers is guiding the students to use appropriate research instruments (e.g., questionnaires, scales, tests) to obtain the needed data. Specifically, the advisers verify student understanding of the development /modification, validation and use of these tools. Issues on validity and reliability of these instruments can also be clarified.

During the initial phase of thesis writing, advisers scaffold by providing advisees with thesis exemplars in an effort to induct the graduate students to the style, conventions and structure of a thesis. As stated by Hyland (2003), *the teacher takes an interventionist role, ensuring that students are able to understand and reproduce the rhetorical patterns needed to express meanings.* The findings suggest that inscriptional-representational scaffolding is also valuable because it provides patterns and examples that would guide the advisees in structuring their theses.

The third research problem ascertained the perceived effectiveness of the identified scaffolding strategies. Table 3 indicates the level of effectiveness of scaffolding strategies.

Table 3. *Level of Effectiveness of the Scaffolding Strategies*

Mode	Manner		Means	Very Effective	Somewhat Effective	Neither Effective Nor Ineffective	Somewhat Ineffective	Very Ineffective
Interactional	Procedural	1	Orientation	48% (29)	37% (22)	8% (5)	3% (2)	3% (2)
		12	Summary & Critique	53% (32)	25% (15)	17% (10)	3% (2)	1% (1)
		13	Annotation & Citation	45% (27)	32% (19)	15% (9)	3% (2)	3% (2)
		14	Data-Gathering Procedure	45% (27)	25% (15)	17%(10)	5% (3)	5% (3)
		24	Oral Presentation	45% (27)	22% (13)	17% (10)	8% (5)	3% (2)
		26	Manuscript Review	63% (38)	20% (12)	6% (4)	1%	1%
	Representational	3	Topic Identification	48% (29)	33% (20)	13% (8)	5% (3)	-
		4	Discussion of Thesis Exemplars	50% (30)	30% (18)	8% (5)	6% (4)	-
		5	Structural Analysis	50% (30)	33% (20)	13% (8)	3% (2)	-
		7	Problem Formulation	73% (44)	25% (15)	3% (2)	-	3% (2)
		8	Theory Selection & Conceptual-ization	57% (34)	37% (22)	6% (4)	1% (1)	1% (1)
		9	Clarification	63% (38)	28% (17)	3% (2)	1% (1)	3% (2)
		11	Discussion of Relevant Articles	38% (23)	25% (14)	13% (8)	3% (2)	5% (3)
		15	Consultation Session	57% (34)	27% (16)	15% (9)	1% (1)	1% (1)
		16	Feedback	58% (35)	35% (21)	6% (4)	1% (1)	-
		17	Questioning Probing	53% (32)	40% (24)	3% (2)	1% (1)	3% (2)
		18	Data Commentary	48% (29)	22% (13)	10% (6)	3% (2)	3% (2)
		20	Collaboration	48% (29)	32% (19)	17% (10)	3% (2)	1%
		21	Research Logs	45% (27)	33% (20)	17% (10)	3% (2)	1% (1)
		22	Cues/Hints	33% (32)	30% (18)	10% (6)	3% (2)	3% (2)
		25	Prompts & Restatements	58% (35)	22% (13)	8% (5)	5% (3)	3% (2)
	Procedural	2	Work Plan	38% (23)	33% (20)	22% (13)	6% (4)	-
		6	Mind Word Maps	53% (32)	33% (20)	8% (5)	3% (2)	3% (2)
Inscriptional		4	Thesis Exemplars	50% (30)	30% (18)	8% (5)	6% (4)	-
	Representational	8	Schema Construction	57% (34)	37% (22)	6% (4)	1% (1)	1% (1)
		10	Instrument Construction	53% (32)	33% (20)	3% (2)	-	3% (2)
		11	Provision of Relevant Articles	38% (23)	25% (14)	13% (8)	3% (2)	5% (3)
		19	Data Presentation	52% (31)	25% (14)	8% (5)	1% (1)	3% (2)
		23	ICT Utilization	50% (30)	17% (10)	18% (11)	6% (4)	3% (2)

As can be seen, half of the graduate students perceive the interactional procedural scaffolding means as *very effective*. Sixty-three percent (63%) of the respondents considered, in particular, manuscript review as very effective. During the FGD, they affirmed that advisers who provide extensive and specific feedback on their thesis drafts have significantly helped improve their manuscript. This suggests that the adviser and the advisee should work collaboratively in examining the paper specifically its content and organization. As stipulated in the Graduate Student Handbook (2009), both should *work closely in reading, reviewing and checking the manuscript* prior to the panel's review.

In terms of interactional-representational scaffolding strategies, the top two categories for the graduate students were problem formulation and clarification. As revealed during the FGD, students found the selection of research problem as the most challenging part for neophyte researchers. However, with the enabling support of the advisers, they were able to manage this task. According to those who successfully passed Stage 1 (Thesis Proposal), advisers scaffolded this difficulty by asking them to do literature search and subsequently, leading them to generate research questions.

This interactional - representational support is corroborated by Padua (2010) who described three sequential phases of graduate faculty-student interaction. In the exploratory stage (Stage 1), the adviser throws out leads and gives information about where and how to look for problems in need of investigation. The second stage is one moving toward problem focus in which the advisee is required to choose two or three problems in a topical area based on his or her literature review. The final stage is the formulation of research questions by the advisee. The adviser evaluates these questions against a set of criteria.

Another interactional resource used by advisers is clarifying student understanding. This discursive support involves asking the advisees to make their paper clearer and more concise. According to the advisees during the FGD, their advisers usually ask or mark their drafts with questions like *What do you mean by…? Could you please restate this sentence/ paragraph?* without explicitly telling them what to do. This questioning enables the advisees to discover and reflect on their own inadequacies in their paper. As emphasized by Bicar (2013), advisers need to check on the thoroughness, clarity and logical organization of the manuscript.

With regard to inscriptional-procedural scaffolding, half of the respondents perceived mind mapping as *very effective* while slightly over one-third rated work plan as *very effective*. This suggests that students regarded this scaffold as helpful in graphically organizing relevant ideas and understanding relationship between these ideas. This is typically used during the early stage of thesis writing (topic generation and schematic diagramming). On the other hand, only few considered work plan as useful. This would show that majority of the students have difficulty managing their time and consequently, accomplishing their research tasks as scheduled.

As to inscriptional-representational scaffolding, majority of the respondents reported schema construction as *very effective,* while the least rated indicator is the provision of relevant articles. This would indicate that graduate students felt the value of advisers helping them organize the variables and illustrate their relationship in a schematic diagram. On the other hand, only few regarded the provision of related articles as valuable, probably because not many advisers have the time to do literature search, download articles and share them with their advisees.

The data set in Frame 1 indicates the graduate students' responses during the focus group discussion. As can be gleaned from their responses in Frame 1, advisees received instructional scaffold from their advisers in various ways. These encompass two broad categories: interactional and inscriptional supports. Many responded that while they found research work in the graduate school rigorous and demanding, they received considerable support from their advisers, thus, propelling them to accomplish the tasks. This corroborates Mariani's (1997) proposition that to ensure optimal participation and performance, teachers should provide a balance between challenge and support.

The final research problem sought to find out the progression of the advisers' scaffold during the thesis writing process. The summarized data from the FGD presented in Frame 2 revealed four patterns.

The first configuration follows the conventional approach in which the expert (thesis adviser) provides a high level of support

Frame 1. Excerpts of graduate students' responses regarding the thesis advisers' scaffolding strategies

Q: How do your advisers support you in writing your thesis? What specific scaffolding strategies do they use?

A:

- *told me to work first on the related literature*
- *taught me how to do the literature review*
- *modeled strategies in writing academic papers*
- *taught me the different steps in writing*
- *suggested that I make a separate folder for literature review*
- *required me to do a research log*
- *provided me with sample theses*
- *went over the revision of my manuscript and made further revisions*
- *made side notes and questions*
- *asked me a series of questions*
- *brainstormed with me*
- *made clarifications*
- *scheduled a one-on-one talk, conference*
- *helped arranged the ideas in paragraphs and suggested transitional devices*
- *helped me with rhetorical moves*
- *provided an outline and even modeled how to write an introduction*
- *read my manuscript word for word and made detailed corrections*
- *provided a lot of input to substantiate my paper*
- *clearly explained the variables of my study*
- *anticipated probable questions during the panel defense*
- *advised me to make use of my time wisely*
- *always reminded me : Whatever the problems encountered always keep in touch with me…always consult and verify matters. It's through your reading that you could find studies on which to anchor your study.*
- *kept on telling me: "Decide or else you'll be left behind."*
- *challenged me "Expect to revise your work a hundred times."*
- *provided me with a GANTT chart*
- *allowed me to schedule my own working time*
- *suggested instruments for my study*
- *assisted me in formulating my instrument*
- *taught me how to use the web in searching for related studies*
- *gave me references, journals and list of authors*
- *even downloaded related studies*

in the initial stage and gradually reduces or withdraws the support as the learner (advisee) gains mastery of the task. This suggests that there is a transfer of task responsibility from the adviser toward the advisee. This necessitates full task control by the latter.

Conversely, some students reported that there were advisers who insisted independent learning even during the initial stage. Students were made to work on their own without any intervention. Once they developed the grasp of content and skills needed for thesis writing, it is only when the advisers got involved. This pattern could be attributed to the advisers' expectations that graduate students should be self-directed. Unlike the typical scaffolding progression, this learning environment is predominantly student-regulated.

Another pattern that emerged was marked by a continuing support and dependence from the beginning stage until the last stage. In this configuration, there is no handover nor takeover transition to allow students' independent functioning. This means that there is no transfer of knowledge and skills from the adviser to the advisee; hence, the latter

Frame 2. Progression of instructional scaffolding

Q: At what point(s) do your advisers provide instructional scaffold?

A:

- *My adviser has provided me support at the beginning of the thesis writing process and then allowed me to work on my own.*
- *She let me discovered on my own first, then helped me with my thesis afterwards.*
- *I'm lucky that my adviser was there all through-out the process.*
- *I was only given support only when I need it.*

does not gain full control of the task. It could be conjectured that there are instances when advisers have no choice but to take a lead role in the process especially when the advisee lacks the facility needed to write and/or defend a thesis. However, this practice is criticized in the graduate school. Padua (2010) argued that *too much direction and hand-holding can stifle creativity and independence*.

A further type of scaffolding progression involves giving intermittent assistance. This assist-as-needed type of scaffolding involves advisers working in the background to allow the advisee to take full responsibility for the thesis writing task from the beginning until the end stage. They only scaffold at certain points when called for.

Conclusion and Implications

In consideration of the results of this study, the following conclusions can be drawn: First, the thesis advisers in the graduate school of Bukidnon State University maintain an equilibrium of challenge and support. They have created a highly engaging learning environment which is rigorous yet nurturing, thus compelling the graduate students to demonstrate their competence in doing research work as well as the thesis advisers to provide the corresponding instructional support. Second, the scaffolding strategies come in various modes, manners and means designed to assist the graduate students in completing their thesis; however, the major resource is predominantly interactional in nature. Third, their effectiveness is largely determined by the kind of research tasks, needs of the advisees and mutual collaboration between the advisers and the advisees. Finally, the progression of scaffolding varies in anticipation of the advisees' abilities, advisers' expectations and task complexity.

The results clearly point to the need for advance academic writing as a required elective for graduate students. This will serve as a bridging course for those students who need writing support at master's level. This can be taught following the scaffolded writing approach in which students are introduced to various writing assignments in a progressive manner until they achieve mastery. In terms of thesis advising, advisers need to take a more active role in engaging their advisees in thesis writing providing them a high degree of both challenge and support. Finally, the research implication is for the subsequent researchers to examine the best practices in scaffolding used by thesis advisers whose advisees produce award winning theses and dissertations.

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