Supporting the Neophyte Writer: The Importance of Scaffolding the Process

Mike Smith
Coventry University, England

Mary Deane
Oxford Brookes University, England

Abstract

Writing for publication can be a demanding and stressful experience, yet producing research outputs is a core part of academic life. This article aims to explore how 'neophyte' or novice academic writers can be supported in producing scholarly papers. It analyses a variety of causes for the difficulties faced by new writers, with a focus on the types of motivation that can be harnessed to improve success. The article acknowledges that promoting intrinsic motivation can enhance the writing experience, and investigates how this can be achieved using the familiar tool, Microsoft PowerPoint as a scaffold to develop an article. Although many academics exploit PowerPoint to teach, few of us turn this tool into a writing aid that can help to keep the writing process on track by providing a concise outline of the developing argument in an academic paper. The article concentrates on collaborative writing for publication, which is helpful for neophyte writers and busy academics because the burden of production can be shared. Possible reasons for high attrition rates in publication writing are considered, including a lack of schema development, cognitive overload, and reduced motivation to write. The article demonstrates how PowerPoint can be employed as a catalyst to initiate research writing and foster productivity.

Introduction

Academics are expected to write for publication, but the majority of us seldom consider the nature of research writing, or the steps involved in the process of producing a scholarly article. As a result, the practice of publishing is often shrouded in mystery, and consequently writing for publication can be a daunting task for many academics (Murray 2009). For anyone new to writing for publication, there are weighty pressures and barriers associated with both initiating and completing the process (Haas 2011). For 'neophyte' or novice writers, the challenges can seriously hinder success. This article explores a method that neophyte writers might choose to adopt in order to ease their way into research and publication.

Most academics who teach are accustomed to using Microsoft PowerPoint to prepare and deliver lectures, but the potential of this tool to facilitate publication writing has been relatively neglected in academia. In this article we outline how PowerPoint can support the writing process by helping authors to move from the early stages of developing an article to successful publication. PowerPoint can be especially useful if the starting point for an article has been a conference presentation because the slides used to present can be extended and transformed into text. PowerPoint provides an underlying structure that can act like a springboard by developing individual slides into sub-sections of a paper and unpacking the bullet points on individual slides into paragraphs of prose. This article reports an exploratory investigation that we carried out based on our own collaborative writing. We implemented a scaffolding mechanism developed within Microsoft PowerPoint into the pre-writing stage of

producing a co-written journal article. The first author, Smith is a 'neophyte' or novice writer, whilst the second author, Deane is a writing developer.

Although some novice academics feel they do not require any support with publication writing, other people would like help, but do not know where to find guidance. Often neophyte writers learn through trial and error, which is a time consuming and potentially stressful approach (Keen 2007). Research in the field of Health Studies is particularly revealing about this issue. For example, Keen (2007) audited 550 midwives about their publication writing and found that nearly two thirds of the respondents reported being involved in research of some kind, but only 1% had published their findings (Keen 2007). Whilst many academics are able to access general support for their writing, a problem persists that relates to the content development of their articles, which goes beyond the initial tasks of generating a hypothesis and choosing a format for an article (Keen 2007). Studies show that specific help is needed to aid writers in developing the content of a scholarly journal article. For instance, Baldwin and Chandler (2002) propose the use of a leadership model, which is driven by either a relational or directive approach. If a writer is inexperienced, then a structured directive approach is needed, and this is usually the case for neophyte academics. Indeed, outcomes from the Baldwin and Chandler (2002: 13) intervention are impressive, as with their model which took this approach, 15 of 21 submissions were accepted for publication.

However, on closer inspection, the majority of writers in the Baldwin and Chandler (2002) study met with a writing coach after they had produced their first draft of an article, while other writers met with a writing coach after they had received a manuscript back from a journal with a list of recommendations. Thus, there is a gap in the findings concerning the initial development of research writing. As Keen (2007) notes, many writers do not make it to the stage of producing a first draft because the task of putting together a paper for the first time becomes so daunting that some people end their writing career before it really begins. Arguably, neophyte writers require support *before* entering the drafting stage, whilst still in the conceptual phase of producing an article, and PowerPoint can be useful at this early stage.

Possible Causes for High Attrition Rates amongst the Neophyte Writers

Cognitive considerations

Some writers find that compared to the number of articles they write, the number of articles they succeed in having published is low (Keen 2007). Addressing this issue of high attrition rates is key to supporting publication writing, and often it is due to a mis-match between the content or style of an article and the type of paper required for the target journal. Before starting to write, it is normal practice to gather large amounts of information that must be assembled into a well-constructed piece. This is a part of the writing process that Verhoeven, Schnotz, and Paas (2009) term 'interactive knowledge construction'. To accumulate knowledge is one thing, but a writer must also have a strategy that will assist in incorporating copious amounts of information into a coherent written document. Arguably, it is during this knowledge construction stage that a neophyte writer, and in some cases established writers, experience the most difficulty. When attempting to integrate received knowledge into a clear written argument, there is an increase in 'cognitive load,' which results in the cognitive processing demands of working memory surpassing the cognitive capacity of a writer (Mayer and Moreno 2003). PowerPoint has a role to play in reducing cognitive load because being familiar with this tool, neophyte writers do not have to navigate new methods in order to transform the outline of an argument into a more substantial paper.

A related issue to the question of how a coherent argument may be developed, is that writers who read research papers infrequently can lack a systematic means of recording what they have read, and then articulating how their new work fits into a bigger theoretical picture in their field. For writers who do not often read successfully written papers, a mechanism for supporting their organisation of ideas can be helpful, allowing them to collate existing information and present their fresh ideas with clarity.

A system involved in the active processing and storage of information, especially cognitive tasks like language comprehension, is called working memory (Eysenck and Keane 2001) and this type of memory has a limited storage capacity (Jonasson 2011a; Baddeley 2003). During processing, working memory compares the incoming information with a long-term memory schema, and prior knowledge schemas are activated in response to environmental input, which results in the accumulation of new knowledge (Jonasson 2011b; Derry 1996). A schema is a general term that relates to memory structures that are initially processed through thinking and learning in working memory before being stored as long-term memories. People use schemata to absorb new information and organize prior knowledge in to a framework for future understanding, especially in the context of reading where schema bridge the new with the old (Zhao and Zhu 2012). For example, when a person reads a particular piece of work, working memory compares the incoming information with the already established schema, with language comprehension relying largely on the readers' background knowledge (Carrell and Eisterhold 1983). However, we argue that although everyone has a basic schema for everyday writing that has been developed during formative educational years, a neophyte writer lacks a unique writing for publication schema. Consequently, schema acquisition and development is a major issue that requires some form of facilitation until an established schema is robust enough to cope with the varying demands that writing for publication throws at it.

Writing for the first time is similar to problem solving, where the problem is how to write and the solution is the output or publication. Indeed, Jonassen (2011b) proposes that strategic performance problems, such as academic writing, require a number of tactical actions, usually under significant time pressure and whilst also maintaining situational awareness. Furthermore, Jonassen (2011b) argues that to achieve the outcome, an individual must apply a set of complex tactical activities that are designed to meet strategic objectives, and he recommends scaffolding to support this process, which should be matched with an individual's needs. If the correct type of scaffolding is in place when a neophyte writer's working memory starts to become overloaded, the writer tends to 'release' and temporarily store the information that has been accumulated in the scaffolding mechanism. This process allows a neophyte writer to be freed from the cognitive load on working memory and provides time to develop and strengthen writing schema until the scaffolding is no longer required.

Cognitive load

Cognitive load theory states that the ability to learn a task is negatively affected when working memory capacity is exceeded (Jong 2010). Cognitive load can be described as being composed of three distinct components. Intrinsic load is a direct consequence of the task at hand, the ability and motivation of the learner (Verhoeven, Schnotz, and Paas 2009), for example, starting to write for the first time. A second type of cognitive load is extraneous load, which does not contribute to the learning process (i.e. schema development). Extraneous load occurs due to poorly constructed instructional design (Verhoeven, Schnotz, and Paas 2009) and can be avoided with a different design (Jong 2010). According to Jong (2010: 108), one source of extraneous load is when a learner 'must solve problems for which they have no schema-based knowledge'. It can often be problematic for someone new to writing for publication who has very little knowledge of how best to approach this difficult and often overwhelming task. Consequently, as they wade through the copious amounts of reading material prior to writing a paper, the cognitive load on working memory rapidly increases. Thirdly, germane load refers to the load imposed by the learning process itself (Jong 2010). Support for cognitive load theory comes from the results of a study by Amadieu *et al.* (2009), who investigated the effects of prior knowledge and concept map structure on disorientation, cognitive load, and learning. They found that learners with low prior knowledge experienced higher disorientation during learning. Applied to the field of writing development, these results suggest that anyone with limited experience of the writing process would benefit from an intervention that could decrease cognitive load, thus maintaining their motivation to continue the writing process.

Meaningful learning requires a significant amount of cognitive processing to take place in the verbal and visual channels of working memory (Mayer and Moreno 2003). However, due to working memory having a limited capacity, even an intervention that initially encourages

germane load, whilst at the same time reducing extraneous load, could in fact if germane load is increased beyond the working memory capacity of the learner, eventually turn out to be detrimental to the learning process (Jong 2010; Kalyuga 2007). These distinctions between negative or positive cognitive load have important implications for anyone in the early stages of writing. Consequently, any poorly designed university course that includes inadequately controlled germane load or poorly thought out instruction, may lead to a decrease in motivation and negative implications when writing for publication. Nevertheless, if germane load is controlled, a neophyte writer's motivation to publish may be maintained, which could lead to more sustainable engagement in the writing process. For that reason, an intervention that controls the amount of essential and non-essential content being processed would have the potential to reduce the cognitive load on working memory.

There have already been a number of suggestions to solve the problem of cognitive overload, for example, organising the learning material in a sequential fashion from easy to difficult has been suggested by van Merriënboer, Kirschner and Kester (2003), who propose that this approach protects the learner from experiencing the complete demands of the task. Whilst, a whole-part approach where the entire task is initially presented to the learner, for example, writing a journal article, before the learner then breaks the task down in to manageable but interacting task components has been suggested by van Merriënboer, Kester and Paas (2006) to control cognitive load. Finally, Mayer and Moreno (2003) suggest that 'weeding' and 'segmentation' of content should be used to control cognitive load. Weeding involves making the content as essential as possible by excluding all non-relevant information. Segmentation requires information to be presented in learner-controlled segments rather than as a continuous unit, for instance in the way slides are presented in PowerPoint.

Motivation

The role of external instructional guidance has been used to provide a substitute for missing long-term memory knowledge structures in a schema-based framework for knowledge construction and elaboration (Verhoeven, Schnotz, and Paas 2009). Although this process has been successful, it only supports writers during face-to-face meetings, which may still leave a neophyte writer de-motivated when working independently, and can lead to a need for additional writing support. For anyone providing writing development, it is important to establish an understanding about motivation in order to develop effective learning and teaching strategies (Komarraju and Karau 2005). In the field of education, Biggs (2002) proposes that motivation is either extrinsic or intrinsic in nature. People who are intrinsically motivated often produce the best academic work. In contrast, someone who is extrinsically motivated performs a task purely for what the outcome or reward it may bring. Nevertheless, to assume that motivation is simply made up of two components, intrinsic and extrinsic is simplifying a more complex phenomenon. According to Vallerand and Losier (1999) there are three main types of motivation, with 'amotivation' (no motivation) at one end of a self-determination continuum (Deci and Ryan 1985). They posit three sub-components of intrinsic motivation (knowledge, accomplishment, stimulation), and four sub-components of extrinsic motivation (external regulation, introjected regulation, identified regulation, integrated regulation).

Self-determination theorising distinguishes between different types of motivation based on an individual's reasons or goals, with a clear difference between intrinsic and extrinsic motivation (Deci and Ryan 1985). Where Self-determination theory differs from Biggs' (2002) earlier proposals is that it predicts that some forms of extrinsic motivation can actually be positive, especially if an individual inwardly accepts the importance of a task. Knowing how to promote positive forms of extrinsic motivation is an extremely important element of any successful teaching practice (Deci and Ryan 2000). Self-determination theory proposes that extrinsic motivation can vary greatly in its relative autonomy (Ryan and Connell 1989). For example, a neophyte writer who publishes for career advancement is extrinsically motivated, but there is also often an element of intrinsic motivation. Facilitating both types of motivation in neophyte writers requires supportive conditions over time, which can be promoted by scaffolding techniques. Using PowerPoint to move from the early planning phase of preparing an article through to production and revision can support novice writers' motivation by making the steps this involves seem more manageable. The advantage of developing ideas through

PowerPoint slides is that this can create the backbone of an argument in a shorthand form, allowing writers to obtain a sense of the bigger picture, and creating a kind of scaffold to support the main and sub-arguments as they develop. This can be useful for the inevitable times when writers feel that their work is falling apart because even where sections of an article remain unwritten, a slide can act as a prop that helps to maintain a sense of cohesion.

Implementing Scaffolding into Writing Support

Wood, Brunet and Ross (1976) describe 'scaffolding' as the interaction between a learner and an expert, where learners attempt a task, which without support would be beyond their capabilities. Scaffolding can be traced to the social psychology of Vygotsky (1978 cited in Pea 2004) who introduced the idea of the 'zone of proximal development' (ZPD), which is the difference between a learner's current level of expertise and the level the learner may achieve if supported by a more knowledgeable person. For scaffolding to be effective, a learner and tutor must develop communication skills, mutual trust, respect and understanding that allows the learner and expert to operate more closely as a team (Yowell and Smylie 1999). During the scaffolding process, a facilitator supports a learner in developing their knowledge and understanding of a particular subject, whilst also supporting their socio-emotional needs, which eventually results in the beginner becoming autonomous in their learning (Meyer and Turner 2002).

Recently, interest in the implementation of different forms of scaffolding within the teaching profession has grown into an area of critical interest to educational researchers, with a specific emphasis focusing on measurable outcomes of teaching, for instance, publications (Rosiek 2002). However, to focus on the outcome may only provide a partial insight in to the overall effects of scaffolding because as Rosiek (2002) points out, learning is not only about understanding content, it also involves discovering ourselves in relation to new ideas, for example academic writing. When learning has been effective, we do not only emerge knowing how we operate in the real world, but we also develop personal feelings towards the things we have achieved. This indicates that a connection has been formed between effective learning and a learner, and has been described as 'emotional scaffolding', which according to Rosiek (2002: 399) is 'the tailoring of pedagogical representations to influence students' emotional response to some specific aspect of the subject matter being taught'.

According to Saye and Brush (2002) scaffolding can be either soft or hard. An example of soft scaffolding would be a writing developer supporting a neophyte during the writing process. Another example would be participation in a small learning group, which has been found to have a positive effect on participants' engagement in tasks (Dolmans and Schmidt 2006). Taking a group-based approach can also have a positive effect on motivation (Choo *et al.* 2011). Conversely, hard scaffolding is generally provided once a problem has been assigned to a learner, either in the form of computer-driven support, or paper-based worksheets (Belland, Glazewski, and Richardson 2008). According to Sherin, Reiser and Edleson (2004) there are two benefits of hard scaffolding. The first is task structure, which the authors argue guides learners during the planning and performance components of a task, whilst the second benefit, known as 'content problematizing', is associated with the mechanisms that facilitate learners' understanding of the task in relation to the content. Collaborative writing for publication that uses PowerPoint to support an emerging article has the benefits of both soft and hard scaffolding. Although Sherin, Reiser and Edleson (2004) point out that tools that are computer driven are not capable of providing support for the complex cognitive needs of learners, by working with a colleague this limitation can be addressed.

The role of PowerPoint: strengths and limitations
Biggs (2002) supports the notion that the most effective learning is based on the development of intrinsic motivation, particularly through the inclusion of learners' ideas in the learning process. Yet, PowerPoint is arguably guilty of promoting just the opposite, with learners often remaining passive throughout the process of receiving information this way. The use of PowerPoint to deliver multimedia content to students is for many academics an accepted

method of delivery, particularly because large amounts of information can be stored and periodically updated before delivering sessions (Isseks 2011). Yet this easy-to-use tool can be overused to the detriment of other forms of learning that more actively engage students in the learning process. Indeed, Parslow (2011) suggests that due to the extensive use of PowerPoint to teach, lecturers should be trained in presentation skills to use this medium more effectively. Nevertheless, when PowerPoint is used in an active sense to construct an argument and prepare to write an article, it can promote intrinsic motivation by breaking down the steps into manageable tasks, such as unpacking one concept in visual terms or bullet points, whilst maintaining a sense of the relationship one slide bears to the wider article. This is also a format that can be shared in draft from without giving the impression of chaos that can be created by pages of notes or rough prose.

It seems logical that as PowerPoint is widely used by academics, if this tool could be used to help scaffold the initial writing process, it would be accessible to both neophyte and more experienced writers. Therefore, a key question for academics who wish to write for publication for the first time is, 'how effective might PowerPoint be in facilitating the intrinsic motivation of neophyte writers?' The benefits can include an ability to move content around and the ease with which multiple authors can work simultaneously on an output. Others have explored alternative uses of PowerPoint; for example, Cox (2011) used PowerPoint to develop new types of digital learning, and he makes it clear that although researchers should always be looking for new technologies, there is credence in re-evaluating established technologies in an attempt to find new ways of promoting learning. Our own experience of using PowerPoint to generate articles suggests that this tool can be a vehicle to scaffold the initial writing process, helping writers to record important information and update sections of text. Crucially, if there are spans of time between bouts of drafting an article, authors who used PowerPoint to outline ideas can easily pick up where they left off because any gaps in the argument are relatively clear.

Method: the Implementation of PowerPoint Scaffolding

This section outlines the methods we used to produce a joint publication by harnessing PowerPoint in the early stages of the process. We went through three main phases of planning, drafting, and revising our article. One of us considered himself to be a neophyte writer, and the other is a more experienced writing developer. In the planning stage, we carried out an initial literature review and relevant findings were recorded in a PowerPoint file, which helped to scaffold the information so that it formed the main sections of our article. After this we organised face-to-face meetings to progress our work, at which we raised concerns, suggested priorities, reported on recent achievements, and set action points with deadlines. In this phase we produced an initial draft outline of the manuscript by adding specific content into the PowerPoint scaffolding.

In the drafting stage, we developed the main argument of our article, identified key points, and re-organised the slides into a logical order. We looked for gaps in the argument and undertook more research to fill these in with detailed paragraphs by adding more content to the original PowerPoint slides, plus we used the note facility, and added new slides as necessary. However, very early into the drafting phase of the writing process we experienced communication problems. Personal and professional circumstances changed, and we were less able to move forward than we had planned, as is often the way with collaborative work. Due to our storage of information in the PowerPoint scaffolding, it was easy to re-visit our writing process when eventually we were able to pick up the pace again and continue.

Having produced an outline of our article in PowerPoint, we had an advantage when we got back to work because this resource provided us with a quick reminder of our ideas, a complete structure for the work that remained to be done, and a focus for discussions. We organised virtual meetings with action points for each appointment with short and medium term deadlines. The nature of these meetings changed as the more experienced writer no longer offered advice to the neophyte writer in our collaboration. The novice writer had developed in confidence and proficiency, and became increasingly self-directed in the

research and writing process. In fact, the neophyte writer far overtook his colleague in terms of productivity and effectiveness in achieving their common goal of publication.

In the revising stage we followed an iterative process, moving between generating material and re-working our ideas. Being able to share drafts was beneficial at this stage as it confirmed that we were making progress. In the revising phase, once we could see the fruits of our labours, our motivation levels increased and we started to see an end to our writing process. Again we held virtual meetings and agreed target tasks based on our overall project plan. We revisited our PowerPoint scaffolding to revise the main points and continue developing the structure and contents of our article. By the end of the revising phase we felt that the PowerPoint scaffolding had served its purpose, and it was no longer necessary to re-visit the slides as we entered the final editing phase.

Discussion

The outcome of using PowerPoint scaffolding in the writing process
This collaborative writing with a PowerPoint scaffold was exploratory, and the results are descriptive only, although our work has been published (you are now reading the article we collaborated on). We found that the PowerPoint scaffolding facilitated our writing process in the face of familiar challenges such as competing commitments and a lack of time. We discovered that when we were distracted from writing, even for an extended period and our motivation was tested, we came back to the writing task with a basis for progressing our article because we had the PowerPoint backbone. Although a more traditional written plan may have had similar benefits, an advantage of the PowerPoint scaffolding over a text-based form of planning was that it could be reinforced with notes for each slide to suggest directions for development, and could feature extensive graphics. After developing the initial PowerPoint scaffolding, additional slides could be added and material moved around quite easily, so rather rough content took on a more constructive format quite quickly.

Due to the ever-changing landscape of academia, it is not uncommon for a writer to start constructing a manuscript one day, only to find that due to time constraints he or she does not re-visit the article for a significant period of time. This can have a debilitating effect on a neophyte writer's motivation to write because less experienced authors may struggle to re-discover their place. It can also be tough for experienced academics, who are often under pressure to produce research outputs. By using PowerPoint to scaffold the development of an article, it becomes quite obvious where the gaps are, and it is clear to see where effort should be directed during the writing process.

Despite the potential of PowerPoint to scaffold the writing process and support neophyte writers, it is important to further evaluate the issues involved in supporting less-confident writers, especially disappointment of high attrition rates (Keen 2007). Starting to write for the first time is not unlike problem-solving because the more experienced a person is, the easier the task of writing becomes. When an experienced writer begins to write, he or she already has a well-developed schema, or method that can be applied to a particular kind of problem (Jonasson 2011b). Experienced writers automatically draw on their past writing for publication schema, and as a consequence, they often find the task of writing much easier than neophyte writers, who due to their lack of writing experience have weak schema. For this reason, opportunities to develop or strengthen a writing for publication schema should be embraced, and it is worth experimenting with PowerPoint to find ways of offering neophyte writers support. Although schema development was not measured during our own experimental writing for publication, the less experienced writer in our team felt that this scaffolding was particularly helpful in enabling him to persevere when the going got tough. For instance, it was easy to focus on just one sub-argument and forget the rest of the article by isolating one slide for development, and this helped to reduce a sense of overload and promote the confidence that allows a personal writing schema to develop.

During the course of collaborative writing development, a more experienced author is likely to feedback verbally or demonstrate in writing how to develop a draft to a less experienced

colleague. Similarly, this approach is akin to some problem-solving situations, such as mathematics, where instructors demonstrate how to solve a problem, and then ask learners to transfer the method to their own context (Jonasson 2011b). However, this method has limitations, as certain types of problem solving also require learners to have the capacity to recognise and develop the deep structures of a problem (Jonasson 2011b). Whilst this dynamic of demonstrating how to progress is effective for some contexts, it may be problematic for supporting the ill-structured problem of academic writing. In particular, this didactic approach does not allow a novice writer to develop a personal writing for publication schema. Rather, there is too much emphasis on attempting to transfer knowledge from an experienced writer's schema to a neophyte's schema, instead of allowing a neophyte writer to develop ownership of a personal writing schema. As writing for a peer-reviewed journal poses special demands, the transfer of learning is usually low, which can lead to frustration for anyone new to the publication writing process, and this can eventually result in drop out. For instance, if the time available for research writing is very limited, it can be hard to progress because getting back into the swing of an argument is time consuming. When using PowerPoint, the jist of a paper in progress can be gathered quickly, and more time spent on moving a draft to the next stage of development.

Other reasons for high attrition rates in neophyte writers' publication rates include the strong link between cognitive load and changes in motivation (Verhoeven, Schnotz, and Paas 2009). When writers are new to the publication process, they are likely to be highly motivated, but as they are faced with an ever-increasing number of resources and options, very soon the task starts to become daunting. Consequently, for a number of neophyte writers, this results in too much input into working memory, which leads to decreasing levels of motivation, until a neophyte drops out of the writing process. We have made several claims about why neophyte writers may eventually end their relationship with the academic writing process. However, it is important to note that discussion is based on an exploratory investigation into collaborative writing with PowerPoint as a scaffold, which did not measure cognitive load or motivation levels. Therefore, the claim that cognitive load can be controlled, or that motivation can be improved by using a scaffolding technique is tentative, requires further testing in a wider sample, and across longer time-spans. Furthermore, an important point to make here is that any future research into the effects of cognitive load on performance must include participants who have a vested interest in the task being investigated. Otherwise, an accurate assessment of domain specific cognitive load will not be achieved, which will lead to major implications when the results are proposed as practical recommendations (Jong 2010).

It is a significant limitation of our investigation that we performed the exploration of scaffolded writing on ourselves. Nevertheless, this approach had benefits, including an authentic experience of writing challenges and first-hand experience of PowerPoint to scaffold the production of a paper. However, to address this limitation, our future work will measure levels of intrinsic motivation in other writers who adopt a similar scaffolding approach to publication writing. There is also the potential for future work investigating the relationships between cognitive load and working memory by tracking a range of neophyte writers from different contexts and comparing those who implement strategies to reduce cognitive load with those who do not.

Conclusion

As an initial exploration of the issues that affect neophyte writers, this article has sought to contribute to debate about how to develop writing support, specifically by highlighting the factors that can affect motivation and proposing a simple measure to combat drop out rates. One application for this could be writing developers, who might experiment with offering PowerPoint saffolding as a supplement to face-to-face or virtual writing support. By arguing for the inclusion of scaffolding within the pre-writing stage, we have taken a fresh look at the challenge of publication writing and offered a practical strategy for anyone interested in developing productivity in an era of reducing resources for writing development. We chose PowerPoint as a tool because it is understood by many academics and can be easily integrated to help scaffold the early stages of the writing process. This approach had the

effect of maintaining motivation whilst promoting the development of the neophyte writer's publication production schema (including a familiarity with how to plan, draft, and revise arguments in simple, often graphic terms). This claim is supported by the fact that after about six months, the writers felt that the scaffolding was no longer needed, and further additions were made directly into their manuscript. If novice writers are not freed from the burden of a full-to-capacity working memory, there can be no independence and little enjoyment of writing. Moreover, unless writing support for neophytes is well structured, the development of an individual writing for publication schema will be limited.

In summary, whilst PowerPoint is only one approach to implementing a schema to support novice authors, it might be a simple, effective, and low-cost method of boosting writers' productivity, confidence levels, and success rates. If writers adopt a scaffolding mechanism to facilitate the development of a schema, this can reduce cognitive load in the early stages of writing and may reduce attrition rates amongst neophyte writers. In an effort to reduce cognitive overload and increase motivation, we investigated the use of a scaffolding mechanism in the pre-writing stage of a collaborative writing project. Although we did not implement quantitative measures, there was a strong indication that scaffolding via PowerPoint did facilitate writing success and increase motivation levels over an extended period of time.

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