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Academic Librarians as Informed Learning Developers

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Abstract

Purpose: Academic librarians are well positioned to take on the role of the informed learning developer, working with teachers to design coursework in which students learn to use information as they engage with course context. This chapter aims to provide insights to academic librarians of how they may approach integrating information literacy into courses using an informed learning approach by identifying key aspects of this collaborative work.

Methods: The literature on educational development, specifically outlining the core responsibilities, activities, skills, and models used by educational developers is reviewed and key aspects are identified and applied to describe the role of a developer working with teachers to foster learning through engagement with information in higher education.

Findings: Four key aspects of the work of educational developers are identified: collaborative, scholarly, contextual, and reflective. When adapted to describe the efforts of a developer focused on creating informed learning experiences for students, the four aspects include:

- partnering with teachers to develop informed learning experiences by leveraging the expertise of the teacher and the librarian,
- applying an informed learning pedagogic approach, and drawing from and sharing information literacy scholarship illuminating how information is used in the learning process,
- creating informed learning experiences that are responsive to institutional and disciplinary perspectives, and
- encouraging teachers to reflect on their intentions for content-focused learning and how learning outcomes may be shaped through interactions with information.

Implications: Drawing upon their expertise in how learners use information, academic librarians can use the findings to concentrate their consultative efforts to effectively partner with teachers to transform student learning experiences in higher education.

Introduction

In a time when academic librarians are increasingly expected to demonstrate their contributions to institutional goals (Oakleaf, 2008), such as learning, librarians must acknowledge these evolving responsibilities and respond effectively to newly prioritized duties. The informed learning approach to information literacy developed by Bruce (2008) can provide academic librarians with a framework for advancing student learning. Informed learning—a pedagogic approach in which students learn about disciplinary content and processes by using information—is grounded in three principles: 1) building on learners’ current experiences, 2) promoting simultaneous learning about course content and using information, and 3) enabling learners to experience both using information and subject content in new ways (Bruce & Hughes, 2010). Informed learning encourages students to engage with information in ways that are specific to a context, thereby enabling them to tailor their use of information to learn in different contexts in the future. Though academic librarians are already involved in helping students use information, adopting an informed learning approach requires librarians to make changes to how they approach information literacy endeavors.

Librarians must respond to the contextual nature of informed learning by engaging in closer partnerships with teachers. Prioritizing dialog and collaboration concentrated on teaching and learning will help librarians and teachers co-design learning experiences that enable disciplinary uses of information more prominently within courses. While there is some overlap with their current duties, librarians advancing informed learning may gain insights from the strategies and approaches that educational developers use in their consultative work with teachers. In this chapter, we explore the question, “What are key aspects of the role of developers working with teachers to foster learning through engagement with information in higher education?” To answer this question, we reviewed the literature on educational development, specifically examining the core responsibilities, activities, skills, and models used by educational developers, and applied the results to describe the work of a developer partnering specifically to create informed learning experiences for students. The aim of this exploration is to inform the efforts of academic librarians working to integrate information literacy into higher education course curricula using an informed learning approach.

Consulting for informed learning

The Libraries at Purdue University have adopted an informed learning approach to guide their information literacy programming. Purdue University is a research-intensive university with nearly 40,000 students that is located in the Mid-western United States. Grounded in informed learning (Bruce, 2008), the Purdue University Libraries’ information literacy efforts focus on teaching students to use information in the context of learning about subject content. This approach aligns with a major goal of the Libraries’ strategic plan introduced in 2011 to make information literacy an integral part of undergraduate and graduate curricula (Purdue University Libraries, Press, and Copyright Office, 2016). The Libraries recognized that achieving this goal requires making changes to course curricula. Because academic librarians do not typically have control over curricula, librarians have concentrated on increasing their involvement in partnerships with teachers in other departments or campus initiatives that focus on curriculum development.

Guided by the strategic directive to integrate information literacy into curricula, the Purdue University Libraries joined with other campus partners to create a course development program called Instruction Matters: Purdue Academic Course Transformation (IMPACT). Funded by the Provost and President’s Office, the Purdue University program aims to enhance the success of Purdue University undergraduates by fostering student retention and academic success in large, foundational courses, by making the class environments more “student-centered.” The key idea of student-centered learning is that teaching efforts

should be directed towards enabling student learning, rather than focusing on what may be considered “teacher-centered” activities, such as holding class at regular intervals and exposing students to course content through lectures and reading (Barr & Tagg, 1995). Student-centered approaches typically replace lecturing with active learning activities intended to be more engaging for students.

While other units at Purdue University are involved in assessment of IMPACT, faculty and staff from Purdue University Center for Instructional Excellence (CIE), Information Technology at Purdue University, and the Libraries manage and facilitate the Purdue University program. The program is grounded in a faculty learning community (FLC), a model that brings together groups of teachers from across the university to actively engage in a curriculum focused on building community and taking scholarly approaches to enhancing teaching and learning (Cox, 2004). Each teacher who participates receives a \$10,000 incentive, which is to be used to improve the course being redesigned through the program. In teams comprised of three teachers, an educational developer, an instructional technologist, and a librarian, participants meet for 13 sessions to learn about educational ideas and work on redesigning their courses. Between 2011 and 2016, 234 teachers redesigned 225 courses in the program and redesigned an additional 113 courses on their own. The saturation of courses redesigned through Purdue University has resulted in 68.2% (n=43,909) of Purdue University undergraduates being registered for at least one redesigned course (Purdue University, 2016).

In addition to supporting teachers to make courses more student-centered, the librarians work with them to integrate information literacy, when appropriate, into courses using an informed learning approach. For example, the teacher of a statistical literacy course worked with a librarian and others on her team to create an assignment in which students apply statistical concepts they have learned in class to evaluate and discuss in a Facebook-like environment the veracity of statistics they encountered in the popular media (Flierl et al., 2017). The teacher of an introductory technology course worked with a librarian to have students engage with several kinds of information, including conducting their own interviews and observations, to inform a design process the students were to learn as the major learning outcome of the course.

The librarians recognize that their efforts to embed information literacy into undergraduate courses through the Purdue University program are different from their other information literacy efforts, such as providing one-time class visits or offering workshops. In working closely with teachers to improve pedagogy, be it to integrate informed learning or add student-centered practices to courses, the librarians participating in the program are engaged in activities similar to the educational developers with whom they work. The librarians realized that over time they came to adopt a consulting approach in which they focus on developing shared goals with the teachers related to student learning (Flierl et al., 2017). It is in the consultations—specifically through discussions—that librarians learn about teachers’ intentions for content-focused learning outcomes, thus allowing them to suggest ways students might engage with information to realize those outcomes. This consultative model is commonly employed by educational developers. Learning more about how educational developers approach their work can inform academic librarians’ partnerships with teachers to integrate information literacy into courses using an informed learning approach.

Educational developers’ approaches and strategies

Educational development is a relatively new and an expanding field. Although, “development” is not a standardized term, and educational development may be enacted in various ways (Land, 2001; Webb, 1996), it typically centers on some form of transformation or change (Fraser, Gosling, & Sorcinelli, 2010). Timmermans describes educational development as guiding “individuals and groups through a (problem-solving) process which helps them achieve transformation, in order to enhance learning” (Timmermans, 2014, p. 310). In the process, teachers may develop new understandings of how students

learn, innovative approaches to teaching, and relevant philosophies and practices of teaching as a result of educational development activities. Our review of the literature revealed four key aspects of the work of educational developers: Collaborative, scholarly, reflective, and contextual. The brief descriptions of these aspects described in Table 1 are elaborated on throughout this section.

Table 1: Key Aspects of the Work of Educational Developers

Aspect	Description
Collaborative	Partner with teachers to transform learning environments by leveraging the expertise of the teacher and the educational developer.
Scholarly	Apply theories of teaching and learning to foster change and display their own areas of expertise; draw from and share educational scholarship; advocate for participation in scholarship of teaching and learning (SoTL) research.
Contextual	Create learning experiences that are responsive to disciplinary and institutional perspectives.
Reflective	Encourage teachers to reflect on their curricular decisions and be purposeful in their teaching and learning choices.

Collaborative

Educational developers must attend to relational or interpersonal elements when working with teachers to advance pedagogic improvements—that is, they need to be able to collaborate, identify their roles in the partnership, and determine what expertise they need to share. Land (2001) identified different orientations to educational development based on developers’ attitudes, knowledge, goals, and practices related to their local challenges that are grounded in individual roles, expertise, power, and other values within that context. Ideally, developers and teachers should try to understand one another and modify their views on teaching and learning through their interactions with the other (Webb, 1996). Rathburn and Turner (2012) argue that developers’ approaches to their work is the result of how they identify and position themselves in relation to the teachers with which they work. In these different situations, developers may be perceived by teachers as peers, experts, or non-experts in various categories, including teaching, content, consulting models, or scholarship. Developers must recognize and account for imbalances in positions of control, power, and authority, in order to navigate differences and facilitate change.

Scholarly

Educational developers must have a firm grasp of teaching and learning theories and best practices (Carew, Lefoe, Bell, & Armour, 2008; DiPietro & Norman, 2014; Theall & Franklin, 2010; Zakrajsek, 2010). Fraser et al. (2010) indicates that a significant challenge to the ongoing success and establishment of educational development is the lack of a clear theoretical basis for teaching and learning. Subject teachers, who are accustomed to theory-driven research, have indicated feeling frustrated by the lack of theory supporting the educational development opportunities in which they participate. Integrating teaching and learning theory in a coherent and explicit way may generate buy-in from the teachers with whom educational developers collaborate. Developers with substantive knowledge and ongoing

experience with teaching and learning are more likely to be viewed as credible experts and valuable colleagues by the teachers with whom they work (Theall & Franklin, 2010).

Developers must also be aware of the foundational research on teaching and learning (Zakrajsek, 2010), which they can share to bolster teachers' knowledge and help them make impactful pedagogic choices (Theall & Franklin, 2010). Educational developers can leverage their background knowledge on learning and motivation theories to establish a positive and supportive learning environment (DiPietro & Norman, 2014). In recent years, developers have become increasingly involved in partnering with teachers on scholarship of teaching and learning (SoTL) research projects that investigate the effectiveness of learning activities. Teachers engaged in SoTL take an evidence-driven approach to their curricular activities that emphasizes reflective pedagogic practices, advances understandings of teaching and learning theory and practice, and underpins actionable assessment methods (Taylor & Colet, 2010). SoTL partnerships between teachers and educational developers allow developers to examine and share their own knowledge and experiences of teaching and learning with a larger educational community.

Contextual

In order to truly understand the complexities of one's context, Palmer (1998) argues that developers must assume an active role in the local community by communicating about issues and challenges, and sharing resources (cited from Taylor & Colet, 2010). Carew et al. (2008) coined the term "Elastic Practice" to describe the work of developers who shape their approach to consulting according to the context of the participating teacher. Developers draw on techniques, past experiences, ideas, and theory to support their educational development work within unique contexts. It is critical for educational developers to understand the basic elements of how teachers within a discipline understand and approach teaching (Carew et al., 2008; Taylor & Colet, 2010; Timmermans, 2014). According to Gibbs (2013), centers for teaching and learning are increasingly adjusting their practice in response to the different ways disciplinary teachers conceptualize, talk about, and enact teaching. Educational developers additionally face the challenge of recognizing and be able to work within the multiple layers present in higher education, such as the disciplines of the individual teachers, the university and its political system, and accrediting bodies that exert standards over institutions (Timmermans, 2014).

Reflective

Reflective educational practice—the purposeful exploration of technical and philosophical aspects of teaching and learning practice (Brookfield, 1987)—is a significant part of educational development. Timmermans (2014) identified "reflecting" as a threshold concept—a core way of knowing and being—that defines the work of educational developers. In addition to exploring their teaching and learning endeavors through a critical lens, educational developers also use reflective practice as a means to establish strong and accepting partnerships with teachers (Webb, 1996). Some researchers go even further, arguing that reflective practice is a powerful theoretical frame that informs approaches to educational development (Carew et al., 2008; Webb, 1996).

Educational developers and teachers may use reflective approaches to teaching and learning in several ways. Reflective practice foremost fosters professional learning and transformations of educational environments (Carew et al., 2008; Geertsema, 2016). Educational developers model and describe reflective techniques in their consultative environments to help teachers develop more critical stances to their own practices and teaching strategies, as well as greater empathy to the students they engage with in the classroom (Carew et al., 2008). Developers who incorporate reflective techniques in their consultations with teachers may help teachers develop capacity for ongoing and voluntary critical evaluation of their teaching practices and an openness to change (Gibbs, 2013). Partnering to create SoTL research is yet another means through which teachers may engage in reflective practices by continuously

assessing how their teaching impacts student learning and making the needed changes according to their findings (Geertsema, 2016).

Informed learning developers

Advancing informed learning in higher education requires changes to course curricula. In order to make such changes, academic librarians must assume the role of an informed learning developer. Being a developer requires working closely with teachers who have control of course curricula to enable learning outcomes through the use of information. When engaging in these efforts, librarians may benefit from incorporating aspects of the work of educational developers and tailoring it to their specific needs. Adapted from our analysis of the literature on educational development, Table 2 outlines key aspects of the work of informed learning developers.

Table 2: Key Aspects of the Work of Informed Learning Developers

Aspect	Description
Collaborative	Partner with teachers to develop informed learning experiences by leveraging the expertise of the teacher and the librarian.
Scholarly	Apply informed learning pedagogic approach; draw from and share information literacy scholarship illuminating how information is used in the learning process; advocate for participation in informed learning research.
Contextual	Create informed learning experiences that are responsive to institutional and disciplinary perspectives.
Reflective	Encourage teachers to reflect on their intentions for content-focused learning and how learning outcomes may be shaped through interactions with information.

Informed learning involves focusing on both learning subject content and learning to use information, and therefore, it benefits from collaboration between an academic librarian, acting as the informed learning developer, and a teacher. An academic librarian has knowledge of how learners use information within the learning process. A higher education teacher has expertise over the subject content that is to be learned in a course. Academic librarians can gain buy-in from the teachers with whom they partner by focusing on the shared goal of helping students achieve content-focused learning outcomes, while also discussing ways students may engage with information to achieve those outcomes (Flierl et al., 2017). Acknowledging the role the other plays and leveraging their own areas of expertise, the teacher and developer can work together to determine how content-focused learning outcomes can be realized through intentional use of information, and then design coursework providing the students with experiences of using information in these ways. An introductory biology course at Purdue University provides an example of this type of collaborative work. Because the teacher felt that her students did not see the relevance in information literacy homework assignments, she partnered with two librarians to change her assignments so that at the beginning of the semester the students identified something personal that they would learn about by finding and using biological information. Using the Six Frames for Information

Literacy Education model that underlies informed learning (Bruce, Edwards, & Lupton, 2006), the librarians collaborated with the teacher to draw out the personal and social ways students may relate to disciplinary information. Following the partnership with the librarians, the teacher perceived that students recognized the value of learning to use biological information. Through collaboration, developers can learn more about how subject experts understand a discipline, teachers can learn how using information in specific ways can support disciplinary learning outcomes, and both can modify their understandings of how using information and subject content can come together to support student learning.

As with educational development generally, informed learning development is grounded in scholarship. In particular, an informed learning developer's work is underpinned by the informed learning pedagogic approach outlined by Bruce (2008). Exposing teachers to the scholarship on informed learning may help them understand how the adoption of such an approach can support their students' achievement of content-focused goals for learning and how other teachers are integrating informed learning into their disciplinary classes. Incorporating the literature on informed learning into their consultative work may also help academic librarians highlight their expertise to the partnering teacher, as they reveal how their ideas are grounded in theory and research findings.

An informed learning developer would also need to be familiar with and highlight information literacy scholarship that illuminates how information is used in the learning process. Developers can introduce teachers to studies that reveal how students focused on learning course content may have more complex experiences of using information than students who focus solely on using information, such as finding quality sources. This has been found to be true across different contexts, such as students studying internet searching (Edwards, 2006), jazz or tax law (Lupton, 2008), or education (Diehm & Lupton, 2012). Discussions about the literature on informed learning can help the developers and teachers strategize what techniques work and how they may adapt informed learning to the teacher's individual environment. Developers may encourage the teachers they partner with to contribute to the growing body of informed learning research by investigating how using information in specific ways contributes to student learning, and publishing the results in higher education or information literacy journals.

Successful consultations between an academic librarian and a teacher to develop informed learning can be fostered or hindered by the librarian's responsiveness to the teacher's context. As with an educational developer, a librarian in the role of an informed learning developer may want to propose ideas for having students use information in ways that align with (or at least do not undermine) departmental or institutional goals for learning. For example, at an institution encouraging teachers to have students create media, such as videos or podcasts, a librarian could help teachers develop assignments that focused on using information to communicate in those modes. Students could work together to create wikis on a complex subject or use vlogging (video blogging) as a platform to synthesize research, ask and answer questions to one another about research processes, and maintain a conversation with others about using information related to a research topic. Perhaps more importantly, the librarian needs to suggest ways for students to use information that mirror the information practices used within the teacher's field. Rather than a librarian offering a general instruction session outlining features and techniques for using a database provided by the library, a librarian may work with a nutritionist to help students use information to inform an experiment, or work with a composition instructor to enable students to find and analyze information to understand community discourse. The librarian may be more successful at paving the way for curricular change and specifically incorporating information literacy into a disciplinary course when he or she makes recommendations that reflect a nuanced understanding of the disciplinary and institutional environment in which the teacher operates.

Lastly, reflective practice is an important aspect of both educational development and informed learning. Educational developers work with teachers to help them adopt reflective practices to their teaching efforts

or teaching philosophies, in order to help them make knowledgeable pedagogical decisions to support student learning into the future (Gibbs, 2013). Informed learning developers may also use reflective practice to help teachers develop a mechanism to continuously evaluate their pedagogical decisions and the effectiveness of those decisions for student learning. These developers specifically concentrate on helping teachers critically reflect on how using information can facilitate students' achievement of content-focused learning goals.

Informed learning developers can also work with teachers to demonstrate how reflection can be used in an informed learning environment. Because informed learning seeks to help learners experience different ways of using information to learn within disciplinary contexts, teachers may decide to incorporate reflective prompts into their courses. For example, a teacher could have students compose a journal to describe how they used information for a final research project, explaining how their process of using information helped them understand their topic and consider different ways they could have engaged with information to complete the final project. Students might explore an environmental studies issue from a political or social perspective, in addition to examining it through a scientific lens.. Through this type of reflective thinking students may uncover alternative interpretations, new information, or a more effective and efficient strategy for conducting research in the future. In an informed learning environment, such reflective prompts may help learners become more aware of how they use information to learn as they complete their assignments, as well as the various ways others may have used information to complete the same task.

Preparing academic librarians to be informed learning developers

Academic librarians are well positioned to take on the role of an informed learning developer. Nevertheless, there are new elements they may need to bring into their practice in order to fully address the collaborative, scholarly, contextual, and reflective aspects of working with higher education teachers to advance informed learning. The roles of academic librarians are continually evolving (Jaguszewski & Williams, 2013; Miller & Pressley, 2015), and many librarians are beginning to be engaged in practices that already align with those of an informed learning developer. For example, many libraries spend far less time doing collection development, and more time consulting and engaging in teaching-related activities (Miller & Pressley, 2015). Specifically, librarians are expected to:

- build lasting and effective relationships,
- adopt flexible and user-centered approaches to their collaborative work,
- participate in collaborative scholarship,
- engage in curriculum development, and
- assume advocacy and consulting roles (Jaguszewski & Williams, 2013; Miller & Pressley, 2015).

Many academic librarians already collaborate with teachers on developing curricula or conducting research projects. These activities provide a foundation for moving into the role of informed learning developer. However, librarians' current collaborative efforts tend to focus on library-specific concerns, such as promoting open access and institutional repositories, consulting on intellectual property, data management, or offering information literacy instruction (Miller & Pressley, 2015). In adopting the role of an informed learning developer, librarians must shift their collaborative efforts toward co-designing course curricula that emphasizes using information to learn. While still consultative work, collaborating to develop informed learning assignments may be different than the consultations librarians are typically involved in, where they may act as "brokers" who connect a teacher to others in the community who can respond to a specific need (Miller & Pressley, 2015). Exemplified by the librarians at Purdue University who work with teachers through the Purdue University program over a semester, integrating information literacy into a course using an informed learning approach may require more extensive involvement than

the consulting efforts with which librarians are usually involved. Because the informed learning developer may spend considerable time working with a teacher, the developer must pay special attention to the interpersonal elements of the collaborative relationship and work hard to bring together the teacher's and developer's individual areas of expertise to facilitate change and support their shared goal of student learning.

A general knowledge of teaching and learning is useful when collaborating with teachers to integrate information literacy into a course using an informed learning approach. This knowledge will aid in explaining how using information may support other pedagogic ideas, such as problem-based learning, or learning theories, such as constructivism and connectivism, that may be of interest to the teacher. Many librarians are hesitant to engage extensively in teaching (Austin & Bhandol, 2013; Walter, 2008; Wheeler & McKinney, 2015), citing a lack of formal pedagogic training (Austin & Bhandol, 2013; Walter, 2008; Wheeler & McKinney, 2015). Therefore, it may be necessary to provide professional development opportunities specifically focused on teaching and learning. A firm understanding of teaching and learning theories—particularly related to informed learning—establishes the developer's credibility to the teacher, who may be used to grounding their understanding of a field in theory and evidence-based practice. The developer who participates in scholarship of teaching and learning (SoTL) establishes even more credibility as an expert and contributor to the growing body of knowledge on pedagogy and classroom practice.

While it may be assumed that academic librarians are aware of theories about how people use information, they may also need to learn specifically about informed learning as a pedagogic model, and the theories and research that underpin it. In particular, librarians taking on the role of an informed learning developer should be familiar with the scholarship that explores the relationship between using information and learning (see for ex: Limberg, 1999; Lupton, 2004; Lupton, 2008; Maybee, 2006). Knowledge of other theories that underpin informed learning may also be useful to the developer. For example, a developer can use the GeST Windows model (Lupton & Bruce, 2010) as a framework for identifying how information literacy may be understood by the teacher and others they collaborate with to design instruction. Similarly, the *Six Frames for Information Literacy Education* framework (Bruce, Edwards, & Lupton, 2006) can be used to explain how views of teaching relate to views of information literacy.

Developing relationships with teachers requires librarians to respond effectively to the context of the teacher (Jaguszewski & Williams, 2013). Drawing from their current collaborative work, academic librarians may already be somewhat familiar with the departmental and institutional environment of the teachers with which they collaborate to develop informed learning. Librarians with subject expertise may also be aware of the information practices and conventions that are commonly used within the disciplines of the teachers with whom they are collaborating. An informed learning developer, whose task is to seamlessly weave using information into disciplinary classes, may need to make special efforts to actively learn and communicate about their collaborating teachers' contexts—be it the departmental norms or disciplinary practices. If lacking familiarity with either, the librarian may want to draw in other librarians with relevant subject expertise or experience with the department. For example, when one of the authors was asked to work with a biologist, he asked a life sciences librarian to join the team as well. If it is not possible to draw in another expert, the librarian may want to structure the interactions with the teacher to allow the teacher to explain how experts in their field use information and draw from that when brainstorming learning activities for a course.

While specific practices may need to be adapted for the work of developing informed learning, engaging in collaboration, taking a scholarly approach, and being aware of contextual factors are all part of academic librarians' current practices. Encouraging reflective practice in teachers has not been an explicit

goal of librarians' consultative work. But, as a fundamental aspect of educational development (Timmermans, 2014), reflective practice must be considered an important part of developing and continually improving informed learning in the higher education classroom. Therefore, academic librarians who are working as informed learning developers should learn reflective techniques, employ them in their consultative work, and encourage teachers to adopt them to support the development of their pedagogical practice and to specifically have them consider how using information supports disciplinary learning. A possible way that informed learning developers can encourage ongoing reflective practice can be to partner with teachers on informed learning research, where the teachers seek to understand how the informed learning activities students engage in within the course enable them to use information to learn subject content. The findings can contribute to a greater awareness of the utility of informed learning in classrooms and be used to make the teacher's informed learning activities more effective in future iterations of the course.

Conclusion

Academic librarians have an opportunity to contribute to student learning by collaborating to integrate information literacy into courses using an informed learning approach. Reviewing the literature describing the role of educational developers, this chapter outlines aspects of the collaborative work librarians must undertake to develop informed learning courses at their institutions. Building on their existing professional practices, librarians are well positioned to take on the role of the informed learning developer, helping teachers recognize the importance of students learning to use information within a learning context. Drawing upon their expertise in how learners use information, academic librarians can concentrate their consultative efforts to effectively partner with teachers to transform student learning experiences in higher education.

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