The Journal of Experimental Education

ISSN: 0022-0973 (Print) 1940-0683 (Online) Journal homepage: http://www.tandfonline.com/loi/vjxe20

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To cite this article: Jeffrey R. Albrecht & Stuart A. Karabenick (2018) Relevance for Learning and Motivation in Education, The Journal of Experimental Education, 86:1, 1-10, DOI: 10.1080/00220973.2017.1380593

To link to this article: https://doi.org/10.1080/00220973.2017.1380593

THE JOURNAL OF EXPERIMENTAL EDUCATION
2018, VOL. 86, NO. 1, 1–10
https://doi.org/10.1080/00220973.2017.1380593

Routledge
Taylor & Francis Group

INTRODUTION TO THE SPECIAL ISSUE

Relevance for Learning and Motivation in Education

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ABSTRACT

Questions of educational relevance have surfaced frequently among educators, philosophers, and social scientists for centuries. Recently motivation scientists have reinvigorated such questions and are directing considerable empirical attention to develop interventions to help students make connections between what they do in school and their lives. These intervention efforts have had mixed results, and in response researchers have pointed to the need for increased clarity around the construct of relevance: what it means and how it should theoretically relate to academic motivation and achievement. In this introduction, a brief history of interdisciplinary perspectives on educational relevance and overview of emerging views among researchers in education and psychology.

KEYWORDS

Achievement motivation; expectancy-value theory; history of psychology; relevance intervention; self-determination theory

> "The theoretical problem, with relevance as with virtue, is to say in what it consists and why, thus specified, it ought to be pursued."
> —Israel Scheffler, *Reflections on Educational Relevance* (p. 764)

Brief history of a controversial concept

THE ISSUE OF educational relevance has surfaced frequently over the past several centuries, focused on the function or purpose of education for societies and individuals. In keeping with calls to understand the philosophical roots of educational psychology (Alexander, 2003), we describe some of the historical issues around educational relevance and relate it to how researchers in this field discuss it today. Philosophers have long argued that education should serve both individual and collective purposes, such as preserving cultural knowledge, creating an ideal state, informing the future citizenry, producing human capital for industry, and promoting social and emotional development (Ozmon & Craver, 1995). Over time, prominent educational theorists and social commentators have primarily considered the issue from their vantage point of authority and influence, with little regard for students' opinions on the matter, often as part of a sociopolitical agenda (e.g., Gibbons, 1998). Recent surveys suggest that American adults hold many diverging viewpoints on the issue (Walker, 2016), and some have argued that everyone has his or her own unique beliefs regarding the purpose of education (Sloan, 2012). Still, members of the education and psychology research communities see it as imperative that education be made relevant to students' lives, interests, and cultural backgrounds (National Research Council, 2003). Given this predicament, it isn't difficult to understand the sentiment of many teachers who are daunted by the prospect of making education relevant to classes full of increasingly diverse students (Bridgeland, Dilulio, & Balfanz, 2009). To complicate matters, there is little consensus on what it even means to make education relevant to students. The purpose of this issue is to help clarify the meaning of relevance and to bring together insights from diverse research programs to aid efforts to promote relevance in education.

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Not everyone agrees that education should or even can be made relevant, and such disagreements often highlight the uncomfortable fact that there are significant disputes, even among educational administrators, about the purposes of educational institutions. In a recent article in the *Chronicle of Higher Education*, for example, Braswell (2017) insisted that educators "must recognize the broader social affliction that relevance culture has become," noting that arguments over the relevance of education are ultimately about selling initiatives (e.g., offering humanities courses) through appeals to their extrinsic value (e.g., creating human capital) rather than accepting such initiatives on account of their presumed intrinsic worth (e.g., enriching one's life). Braswell stressed that authorities and social critics often bend and restrict conversations to promote their own ends by defining what is "relevant" in ways that exclude other potential sources of value. For instance, Gibbons (1998) argued that relevance should "be judged primarily in terms of outputs, the contribution that higher education makes to national economic performance" (pp. 1–2), thereby excluding non-economic sources from considerations of the value of higher education.

While there is validity to Braswell's (2017) critique, his suggestion to "pull relevance off of its pedestal," contradicts the position of educators and educational researchers who recognize the educative and motivational potential of making curricula relevant to students' lives. Problems arise when educational relevance is framed to focus solely on society's broader agendas at the expense of students' goals and interests. As Gilman and Anderman (2006) noted:

> Given the current emphasis in the United States on standards, accountability, and assessment, a thorough understanding of student motivation and the contextual effects that influence motivation is essential towards transforming schools from perceived intellectual prisons, devoid of relevance and personal meaning, to environments that support exploration, learning, and creativity among all students. (p. 326)

As this passage suggests, there is a great need to understand educational relevance from students' perspectives, particularly regarding efforts to promote achievement and motivation. While it's not hard to find evidence that many students share a similar (albeit scaled-down) belief with Gibbons (1998) that education should serve their economic needs (Pryor et al., 2012), undoubtedly, most teachers who have sought to instill a passion for learning their subject recognize the need for students and society alike to acknowledge the value of education beyond merely addressing economic needs. Critically, students are very often highly receptive to such impassioned and novel visions of what education and disciplinary learning can mean, and they crave experiences that will broaden their often restricted understanding of the role of education in their lives (Albrecht, 2012).

Paralleling Braswell's (2017) position, over a century ago, Dewey (1900) argued that discussions of relevance must be expanded to pursue a "liberation from narrow utilities," which other researchers have since echoed (e.g., Brophy, 2009), popularizing efforts to make education relevant not only to satisfy the priorities of social authorities but also to improve students' academic achievement, motivation, and continued passion for learning. In *My Pedagogic Creed*, Dewey (1897) stated that "education … must begin with a psychological insight into the child's capacities, interests, and habits" (p. 2). Throughout his work, Dewey maintained that such insights were critical for making education relevant to students' lives and experiences, later describing the cognitive processes through which individuals perceive connections between experiences and use the knowledge gleaned to engage in reflective judgment (Dewey, 1910). He further insisted that relevance appraisal processes have important implications for academic achievement and motivation:

> [Curricular content] needs to be *psychologized*; turned over, translated into the immediate and individual experiencing within which it has its origin and significance. … When the subject-matter has been psychologized, that is, viewed as an out-growth of present tendencies and activities, it is easy to locate in the present some obstacle, intellectual, practical, or ethical, which can be handled more adequately if the truth in question be mastered. This need supplies motive for the learning. An end which is the child's own carries him on to possess the means of its accomplishment. (pp. 8–9)

Thus, Dewey laid the philosophical foundations for current efforts in educational psychology to examine relevance as a psychological phenomenon related to academic achievement and motivation. In this issue, researchers describe recent conceptual and empirical advances in the study of relevance. Accordingly, we begin by describing the rise of relevance as an explicit, psychological construct and

some of the challenges to clarifying its place within the motivation-science lexicon. Much of the work has originated in interventions to facilitate students' adaptive motivational beliefs.

Recent popularity of relevance interventions

Over the past few decades, the idea that education should be made relevant to students has been studied and endorsed by motivation researchers in education and psychology. The National Research Council's Committee on Increasing High School Students' Engagement and Motivation to Learn (NRC, 2003) reported findings from extensive motivation research and concluded: "The evidence suggests that the instructional program … needs to be relevant to and build on students' cultural backgrounds and personal experiences, and provide opportunities for students to engage in authentic tasks that have meaning in the world outside of school" (p. 94).

Since the NRC published their report, researchers have developed *relevance interventions* that seek to promote students' beliefs that what they do in school connects in meaningful ways to their lives. Initial findings from such interventions were promising, showing positive effects on academic achievement and motivation (for reviews, see Karabenick & Urdan, 2014; Lazowski & Hulleman, 2016); however, some recent attempts to apply these interventions in different contexts have produced null and even negative results (Albrecht & Karabenick, 2017), even leading some to categorically state that "trying to make the [instructional] material relevant to students' interests doesn't work" (Willingham, 2009, p. 63). Such findings have spurred increased attention to the situational factors and psychological mechanisms that moderate relevance intervention outcomes, including relevance appraisal processes and individual differences. Much of that work is reviewed in this issue, and although such interventions have resulted in some progress they have yet to resolve central concerns about the meaning of relevance itself.

As a consequence, motivation researchers now recognize the need to address such issues as how the concept of relevance is similar to and distinct from other motivation constructs and what relevance contributes to understanding motivation, achievement, and learning (Rosenzweig & Wigfield, 2016). Attempts to improve conceptual clarity and operational definitions of relevance include a recent symposium—*Experiencing Relevance: Clarifying the Definition of a Vital Motivational Concept*—that challenged the educational research community to develop more explicit conceptualizations of relevance (Hartwell & Kaplan, 2014). However, all but one presentation in that symposium equated relevance with *utility value*, the perceived usefulness of a task for helping facilitate one's goals (Eccles et al., 1983). In response, a later symposium (Albrecht & Karabenick, 2016) focused on including researchers who offered a broader array of perspectives, which prompted an invitation to produce this special issue designed to bring together common and divergent perspectives on the construct.

To summarize, inquiries into the relevance of education have been pursued by philosophers, political commentators, and social scientists for millennia. Whether considering implications for policy, instruction, or individual psychology, each perspective essentially derives from a common question: "What purposes does and should education serve?" One hope is that relevance can serve a bridging function that unites a variety of theoretical perspectives in the motivation sciences (Kaplan, 2016). Accordingly, we challenged contributors from the education and psychology research communities to describe their perspectives on individual and social processes involved in relevance-based motivation and achievement interventions and outcomes. The resultant articles describe a variety of classroom- and student-level interventions, targeting relevance through diverse instructional approaches, curricular designs, and learning technologies.

As the philosopher of education Israel Scheffler (1969) claimed, "Nothing is either relevant or irrelevant in and of itself. Relevant to what, how, and why?—that is the question" (p. 764). The following briefly explicates the significance of these questions in efforts to clarify the meaning and implications of relevance for educators and motivation researchers.

Relevant to what?

In order to make their courses relevant, educators must first consider the focal issues concerning which curriculum and instruction should be made relevant. Consistent with Dewey's perspective noted above,

motivational psychologists contend that focal issues should be personally meaningful to students—for example, relating to their cultural experiences, goals, and interests (NRC, 2003). One of the most common assumptions dating back to Dewey's time is that education should be made relevant to career aspirations. Illustrating the pervasiveness of this view, a recent survey found that education administrators, parents, and students alike in the United States view preparation for future careers as a very important role for academic institutions (Langer Research Associates, 2016). However, as unemployment has declined over the last several years, so have students' beliefs regarding the relative importance of career preparation; indeed, students are increasingly endorsing goals of personal and intellectual development, such as exploring interests and developing appreciation for ideas (Eagan et al., 2017). Consistent with this perspective, contributors to the present special issue include students' personal interests, short- and long-term goals, identity targets, intrinsic and extrinsic goals, and cultural backgrounds.

One of the challenges to making courses relevant is negotiating contextual constraints. As noted by Hartwell and Kaplan (this issue), the course in which relevance is appraised likely restricts the plausible connections that can be made to particular *focal issues*—that is, topics of concern or interest to an individual that frame his/her beliefs about relevance. For instance, while studying the arts is quite obviously relevant to enhancing aesthetic experiences, it is much more difficult to imagine it contributing directly to one's goal of attaining job security, which would be a more plausible outcome of studying business or economics. If self-knowledge is one's goal, then it would be more practical to enroll in a psychology or philosophy course than in a calculus or chemistry course.

Another contextual challenge is diversity. As mentioned above, some have argued that beliefs regarding the purpose of education are unique, suggesting that attempts to make education relevant to every student would likely require individualized instruction. Such requirements can be daunting, perhaps impossible at times, given other demands on teachers and the challenges of connecting with each student on a level to identify personally meaningful background experiences, aspirations, and interests. Further, there are several issues that can arise when educators attempt to make curricula relevant. Dewey (1916) warned that in doing so teachers may remove an opportunity for students to exercise their own capacities for reflective judgment, even though they can provide students with preconstructed connections that serve to scaffold relevance-appraisal processes, claims that have since found support in recent empirical research (e.g., on facilitating cognitive transfer; National Research Council, 2000). Also worth considering is that providing students with connections may be less personally meaningful because of their apparent lack of autonomy when doing so. Teachers may even be insufficiently knowledgeable about the experiences toward which they try to make the curriculum relevant, resulting in connections that are superficial or inaccurate.

Several contributions included here address these issues directly, others address them implicitly. Some interventions use relevance examples that are constructed by teachers or researchers (e.g., direct communication, goal framing, personalization). Others require students to construct their own relevance examples (e.g., self-generation, directed reappraisal) or give students examples of relevance connections from the perspective of researchers or peers (e.g., critical reflection). At this point, it is unclear which of these sources will have the greatest effect on students' motivation. To complicate matters further, evidence suggests that different sources will produce different results based upon students' individual differences (Canning & Harackiewicz, 2015; Durik, Shechter, Noh, Rozek, & Harackiewicz, 2015; Gaspard et al., 2015).

Relevant how?

Another conceptual issue Scheffler (1969) highlighted is determining the way that education is considered relevant—that is, clarifying the nature of the relevance relationship. For instance, students often differentiate between applied and conceptual relevance, wherein the former suggests that knowledge gained can be used in some applied context and the latter that knowledge fits within or otherwise relates to other knowledge schemas (Albrecht & Karabenick, 2015). A major distinction noted by several contributors to this issue is the difference between personal and impersonal relevance. While some

provide evidence that students distinguish between more-personal affectively oriented and impersonal cognitively oriented relevance connections (see Hartwell & Kaplan, this issue) and several suggest that impersonal relevance may uniquely relate to students' academic achievement and motivational outcomes, all contributors focused primarily on personal, self-relevance.

Within the broader category of self-relevance, some argue that relevance is best thought of as comparable to different components of task value, types of extrinsic motivation, or levels of identification with the purposes of engaging with academic tasks. As noted above, several researchers over the years have suggested that relevance is synonymous with utility value and, from a self-determination theoretical perspective, integrated regulation. More recently, however, theorists have expanded upon those perspectives to include relevance that is more intrinsically oriented (e.g., Priniski et al., this issue). To illustrate, when asked on a survey what made a politics course relevant and/or irrelevant, one university student simply said, "I love politics, that is why it is relevant" (Albrecht, 2013).

Knowing how an activity is relevant should help researchers parse out and predict different learning and motivation outcomes. For instance, when relevance is cold and impersonal it may still be integral to learning, whereas warmer, more-personal relevance may be most congenial to affective and motivational outcomes (Albrecht, 2016). Relevance that merely relates to extrinsic goals may promote motivation that is less adaptive or enduring than relevance to goals that are more personally central or integral to the activity (Vansteenkiste et al., this issue).

Scaffolding relevance construction

As alluded to above with regard to teachers' roles in promoting relevance, a primary goal of relevance interventions is to scaffold students' appraisal processes that connect curricular activities and valued goals, interests, and personal experiences. In this issue, five approaches are described based on original research and reviews of the existing relevance intervention research: direct communication, personalization, self-generation, critical reflection, and directed reappraisal (see Table 1).

Direct communication (typically by researchers, instructors, or text) provides students with information regarding the value of engaging with a task (Durik & Harackiewicz, 2007). Direct communication is based on assumptions about the topics most students will find relevant, and requires the least effortful reflection on the student's part. Like direct communication, *personalization* tailors curricular activities to students' background knowledge and interests, typically through instructional technologies that give students the opportunity to indicate which topics they find interesting and presumably relevant (Walkington, 2013). Similar to direct communication, it does not require much effortful student reflection.

Self-generation instructs students to construct or otherwise independently identify the value of engaging in academic tasks (Hulleman & Harackiewicz, 2009). In comparison to other approaches to help students appraise curricular relevance, self-generation requires the most effortful reflection and creativity from students and may be the most personalized in that students have complete freedom to identify what they deem authentic relevance connections. As the least scaffolded approach, self-generation has been found to elicit a range of well to poorly crafted relevance connections (Albrecht, Rausch,

Table 1. Extent of effort, scaffolding, and individualization in five approaches to relevance intervention.

	Effortful reflection	*Scaffolding for relevance appraisal*	*Individualization of relevance connections*
Direct communication	Low	High	Low
Personalization	Low	High	Moderate
Critical reflection	Moderate	High	Moderate
Self-generation	High	Low	High
Directed reappraisal	High	Moderate	High

Note. Effortful reflection: Intervention requires students to generate relevance connections. *Scaffolding*: Examples and/or directions for relevance appraisal are provided to students. *Individualization*: Students are able to connect curricular content to their own, self-identified goals, interests, or experiences.

& Karabenick, 2017). Students are likely to vary in terms of how much time and effort they are willing to expend in the self-generation task and how much background knowledge they have regarding the course content itself.

Critical reflection requires students to evaluate others' relevance claims and requires considerable effortful reflection (Gaspard et al., 2015). Since students are provided with arguments regarding curricular relevance, the process may also serve as a scaffold and reduce cognitive load. Finally, *directed reappraisal* involves extensive instruction on attitudes and attitude change that guides students through a process of reconsidering their beliefs regarding the value of their curricular activities (Acee & Weinstein, 2010). Directed reappraisal thus provides the most elaborate scaffolding but still requires extensive effort as students consider new ideas and engage in multiple activities that apply those ideas. Research that has combined these approaches found that directly communicating relevance to students before asking them to self-generate relevance appears to scaffold the latter process (Canning & Harackiewicz, 2015).

Organization of the special issue

Given the variety of perspectives, the issues of relevance conceptualization and approaches to relevance intervention strongly called for a broader discussion. In response, this issue draws upon multidisciplinary perspectives to expand current understandings and invites a wider audience to the table to inform the development of effective, targeted, and empirically supported relevance interventions. Content was therefore designed to (a) help educators examine the role of relevance in their instruction, (b) provide researchers with broader explanatory mechanisms for intervention effects, and (c) suggest ways to refine interventions or identify areas of study needing further development. To facilitate these outcomes, authors were invited to consider several big-picture questions: (a) How should educators think about relevance? How much responsibility should an educator realistically accept or relegate to students for making coursework relevant? (b) Which psychosocial mechanisms seem most plausible for explaining relevance in education and which can be safely ruled out? (c) Which aspects of relevance interventions produce consistent results and which require further refinement?

For answers to these questions, and more, we selected contributors who were conducting research in these areas, concerned with conceptual issues regarding the relevance construct, and would serve to highlight the differences among research paradigms. For example, some researchers focus heavily on applied questions in education, whereas others focus more on basic research questions in psychology. Collectively, articles in this special issue address all three *Journal of Experimental Education* sections—Cognition and Instruction, Motivation and Social Processes, and Measurement and Research Methods—with each one placing emphasis on one of the domains. The following briefly describes the rationale for including each of the contributions, organized by the respective sections to which they contribute.

For the Cognition and Instruction section, we invited contributions from Taylor Acee and Candace Walkington, because their research has focused more than others on innovative instructional approaches to scaffolding the development of students' relevance beliefs, particularly by considering the cognitive, affective, and self-regulatory mechanisms at work in the relevance-appraisal process. Taylor Acee and Claire Weinstein (2010) developed an approach to improve students' attitudes about the value of statistics, using an elaborate, multicomponent writing and reflection task. The approach highlights the importance of promoting students' awareness of their attitudes toward statistics and students' beliefs that they could change those attitudes and improving their capacity to regulate their motivation. Based on this prior work the researchers were tasked to further develop their theoretical model. Sadly, Claire died unexpectedly in the summer of 2016, a great loss to the educational research community. In honor of her memory, Acee and colleagues contributed an article synthesizing the literatures on attitude change and self-regulation, providing a more detailed model of the cognitive-affective processes initiated through task-value interventions and strategies that students can use to regulate their own motivation.

Candace Walkington and her colleagues have developed learning technologies to promote interest development through personalized instruction in high school algebra. Their work recognizes the

importance of students' relevance appraisal processes, as well as the vagueness of the concept of relevance itself (e.g., Walkington, 2013). For this reason, we invited her to develop prior work, which Walkington and Bernacki have used to provide conceptual clarification of the relevance construct and to detail several key issues for instructors and researchers seeking to influence students' relevance perceptions.

For the Motivation and Social Processes section, we invited contributions from Judy Harackiewicz and Maarten Vansteenkiste, who consider relevance from two distinct and highly influential theoretical perspectives (expectancy-value theory and self-determination theory, respectively). Two of the most well-known relevance interventions to date emerging from an expectancy-value framework were designed to enhance students' utility value beliefs and situational interest. The process involved helping them identify connections between what they were required to learn in their respective courses and their goals, either by directly communicating value claims (e.g., Durik & Harackiewicz, 2007) or by asking students to self-generate relevance connections (e.g., Hulleman & Harackiewicz, 2009). Having initially viewed relevance as synonymous with utility value (Durik, Schmidt, Shumow, & Rodenbeck, 2014; Hulleman & Kosovich, 2014; Harackiewicz, Tibbets, & Canning, 2014), some researchers have recently expanded the view of relevance from concerning with strictly personal goals to including connections between learning tasks and other life domains or outcomes (see Hulleman, Kosovich, Barron, & Daniel, 2016), which Priniski, Hecht, and Harackiewicz elaborate in their contribution to this issue.

One of the major criticisms of relevance framed within expectancy-value theory comes from researchers in self-determination theory (SDT), who have conducted relevance interventions for well over a decade. In particular, Maarten Vansteenkiste and his colleagues have criticized the fact that the utility-value construct glosses over critical qualitative differences in goals that have different implications for achievement and motivation (for a review, see Vansteenkiste, Soenens, Verstuyf, & Lens, 2009). In this issue, Vansteenkiste and colleagues develop their conceptualization of relevance and clarify its place in the process of internalization of self-regulation. Further, they offer recommendations for educators seeking to intervene on students' relevance perceptions to promote self-determined motivation.

For the Measurement and Research Methods section, we invited contributions from Matt Hartwell and researchers from the University of Tübingen. Hartwell and Kaplan (2014) describe a task-value intervention conducted in ninth-grade science classes, which used an inductive, highly situated, mixed-methods approach to examine relevance as a phenomenological experience, whereas other researchers typically approach relevance deductively—that is, as a preconceived construct grounded in theory. Further, Hartwell and Kaplan considered relevance using person-centered analyses in contrast to other relevance research that has relied exclusively on variable-centered analytic approaches. Among the novel features of research from the Tübingen group is the focus on fine-grained subfacets of task-value components (Gaspard et al., 2014; Trautwein et al., 2013), which implicitly links relevance to different aspects of task value rather than, as described previously, restricting relevance to utility value. Drawing upon data from that line of research, Nagengast and colleagues describe methodological advances to help researchers clarify the effects of motivational interventions and demonstrate the procedure using their findings from a recent relevance intervention trial.

Finally, we invited Patricia Alexander to comment on contributions to this special issue on relevance conceptualization and interventions. Her broad and deep familiarity with research in educational psychology and engagement with researchers provides the unique vantage point of someone with extensive and intellectually rigorous contributions to the field. Importantly, Alexander encourages educational psychologists to confront critical conceptual challenges in the field (Alexander, Schallert, & Hare, 1991; Dinsmore, Alexander, & Loughlin, 2008; Murphy & Alexander, 2000). In her commentary, she highlights several areas in which the contributions provide clarity regarding relevance as a psychological construct and offers timely critiques and insights for future research efforts in this area.

Conclusion

As a long-standing issue of debate among social commentators and educators, questions regarding the relevance of education have reemerged as a topic of concern and some contention among motivation

researchers. In particular, motivation scientists have focused attention on the individual psychology of relevance-appraisal processes and beliefs rather than upon educational policy and curricular content. Among motivation scientists, there is a general consensus that helping students comprehend meaningful connections between what they do and learn in school and the issues that concern them in their everyday lives should promote academic motivation and achievement. However, the field has struggled to find consensus regarding the meaning of relevance as a psychological construct, which is likely due to the implicit assumption that people know what it means for schooling to be relevant to students' lives. This issue confronts the challenge of explicitly conceptualizing relevance to facilitate conceptual deliberation and consensus and ultimately to help instructors promote relevance appraisals and perceptions in their instructional practice. We hope this special issue provides a much-needed reflection on the potentials and limitations of current intervention practices and contributes to promoting dialogue and coherence in the field of relevance-intervention research and theory.

Acknowledgments

We would like to thank Avi Kaplan for his invitation to produce this special issue and to our contributors for their enduring commitment and effort to addressing the conceptual and procedural challenges facing the motivation sciences. Further, we thank the many reviewers who devoted their time and attention to help clarify and strengthen authors' work and advance the motivation sciences.

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