The Intentional Design Framework:
Rethinking (Online) Course Design

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Brief Abstract:

An introduction and exploration of the Intentional Design Framework, a heuristic (and holistic) model of the interrelation of complex elements that characterize and influence the design and delivery of instruction. A key element of the Western Oregon University Center for Academic Innovation's Tailored Instruction approach, the Intentional Design Framework is not a step-by-step recipe for the design process, rather it is a conceptual illustration of the learning environment from both the instructor's and the learner's point of view. The framework's dual perspective provides designers and instructors unique insights that can inform their selection and application of instructional models, methods, and strategies to most beneficially serve both the student and the learning endeavor.

Introduction:

As online and technology-enhanced instruction moves out of its infancy, models for design and delivery specifically tailored to the online environment continue to evolve. Early adopters of this incipient mode of delivery were often instructors who, while intrigued by the possibilities of this new educational space, were left to their own devices in terms of instructional design and development of their online courses. Not surprisingly, many simply replicated the activities and learning models of their face-to-face classrooms. The advent of standardized learning spaces ("Learning Management Systems") also had an indelible influence on early design efforts. These systems tended to facilitate the creation and delivery of standardized, text-heavy, asynchronous courses. Concurrently, the work of the Sloan Foundation (now the Online Learning Consortium) and others established a de facto definition of online instruction that leaned strongly toward an asynchronous, text based model where consistency and replicability were paramount.

Similarly, efforts of online instructional designers have relied heavily on systems design approaches to guide course development. Unfortunately, the sequential, step-by-step systems approaches exemplified by the ADDIE model (and its countless offshoots) do not accurately reflect instructional design's true nature – often messy, heuristic, and *wicked* (DeGrace & Stahl, 1990). Like online teaching and learning, instructional design is a field in evolution that must shed itself of preconceived constraints. New approaches, theories, and models are needed to begin to fully harness the power and opportunities inherent to this new instructional space.

As described herein, the Intentional Design Framework represents a distinct departure from the systems models of the past; instead providing a more heuristic view of the learning environment from the perspective of both the instructor and the learner. The model's illustration of the complex interrelationships and fluid power dynamics of the learning environment are not prescriptive. Rather, the framework serves as a guiding tool for faculty or designers to use in making informed design, development, and delivery choices.

Background

The Evolution of Online Instructional Design Models

Throughout the last half century, as understanding of the educational process has evolved and teaching and learning contexts transformed, countless instructional design models have been developed in an effort to inform, and often *direct*, the design and development of educational materials and environments.

One of the most widely accepted models, the Instructional Systems Design (ISD) approach, gained a foothold in government, military, and business environments by the mid-to-late 1970's (Molenda, 2003). This recursive, step-by-step method for design and development, exemplified by the ubiquitous ADDIE (Analyze, Design, Develop, Implement, Evaluate) model, focused on preliminary needs analyses, continuous feedback loops, and formalized evaluation to minimize mistakes and streamline the overall development process (Schlegel, 1995). The rather linear approach of ISD models was particularly applicable to the (then) newly emerging field of computer-based instruction; and in many ways, led to the formalization of the role of instructional designer in higher education.

Systems thinking held a virtual monopoly on the instructional design field well into the 2000's (Reiser & Dempsey, 2012), and the approach is still taught as 'Instructional Design 101' in many programs. Recent retrofits of ADDIE have generally attempted to soften its linearity through the addition of an ever increasing number of feedback loops or by representing the model as a circle with overlapping elements. If anything, these adjustments demonstrate a de facto concession that the ADDIE model does not sufficiently account for the dynamism and fluidity of the 21st century higher education classroom. As noted by Gordon and Zemke (2000), ADDIE's rigid, process-based approach to design, "[when] used as directed…produces bad solutions" (p. 42).

Fueled in large part by Richard Clark's (1983) "no significant difference" postulate, online course designers have adapted traditional pedagogical approaches into models that serve new learning environments. For instance, Gagne's "Nine Events of Instruction," Bloom's "Revised Taxonomy of Cognitive Objectives," and traditional teaching models and approaches such as Mastery Learning and Non-Directive Teaching, have been readily utilized for these contexts (Yilmaz & Cinar, 2006; Joyce et al., 2009). Similarly, Chickering and Gamson's (1987) *Seven Principles of Good Practice in Undergraduate Education* have spawned a number of Student-Centered Instruction (SCI) models that aver that the responsibility to create an effective learning environment as *shared* between teacher and learner (Collins & O'Brien, 2003). Constructivist models, including the Supporting Collaborative Community (SCC) (Bassett, & Hall, 2000), and the Community of Inquiry (CoI) (Garrison et al., 2000), elaborate on the concept of a shared learning space by outlining the interacting domains of knowledge construction. Kent State's RCET model (Swan, 2005) proposes potential supports for learners as they collaboratively explore the quest for new knowledge. Finally, principles outlined in the Quantum Perspective of

Learning can be modeled to transform learners, teachers, and the educational environment (Janzen, Perry & Edwards, 2011).

In addition to the philosophical approaches outlined above, an increasingly pragmatic family of models has emerged, exemplified by Punya Mishra's TPaCK (Mishra & Koehler, 2006). These approaches illustrate the inherent and crucial role technology (and technological aptitude) plays in the online learning environment. Other approaches, such as the CREST+ model for writing effective online discussion questions, focus specifically on increasing *efficiency* in the development of "traditional" online learning formats (e.g., text, assignment, discussion) (Akin & Neal, 2007).

Finally, one relative newcomer to the online model discussion, EduPunk, is not technically a model at all; rather it might be more accurately considered a *frame of mind* regarding the technology-enhanced learning environment. Coined by Jim Groom in 2008, EduPunk outlines a do-it-yourself approach to teaching which is student-centered, resourceful, and teacher or community created. (Madsen, 2008).

While far from inclusive, this list demonstrates the ongoing search for models that are more adaptable to a wider range of learning contexts (Bates, 2011), supportive of innovation in the design of learning experiences (Hokanson, Miller, & Hooper, 2008), and developed specifically to leverage the unique flexibilities and opportunities inherent to the online learning environment.

The Evolution of Online Students

As the United States moves to a Knowledge Economy era, the development of skilled human capital, capable of creating, evaluating, and trading information, is now vital to the sustainability and growth of the nation (Wendler et al. 2010). A 2010 projection estimated that, between 2008 and 2018, two and a half million newly created jobs will require a graduate or doctoral degree (Wendler et al. 2010). Likewise, many jobs which previously required a bachelor's degree now list a master's as a preferred credential. In an ever increasing variety of fields, the bachelor's is quickly becoming as necessary as a high school diploma (Wendler et al. 2010). This upward pressure on educational credentials has significantly affected the traditional educational hierarchy.

For educators, this progression has manifested itself most clearly in their classroom rosters. Not only is the average instructor experiencing increased numbers of traditional age students who previously may not have been considered "college material," but they are also seeing a surge in enrollments of non-traditional students who have returned to school to obtain the credentials they now need. In the United States in 2012, forty percent of undergraduate students were 30 years of age and over, an increase of nearly 18% in 10 years (Snyder & De Brey, 2016).

In addition to the increasing age of students enrolled in higher education, the percentage of students who are working while attending college is also on the rise. In 2015, over 70% of college students were both active in the labor market and formally enrolled in some form of postsecondary education or training (Carnevale, et al., 2015). For institutions such as Western Oregon University (WOU), the traditional-age student (i.e., 18-22) who enrolled full time directly out of high school and does not maintain at least a part time job, is quickly becoming a *minority*.

With an ever-increasing number of students working while attending college, curricular accessibility is paramount. This need for flexibility is evident in the rapid increase in courses delivered via distance education technologies. In 2008, 20% of undergraduate students reported taking at least one

distance education course as part of their course load, an 11% increase over 8 years (U.S. Department of Education, 2014). More recent statistics, from 2013, continue to illustrate this trend, with an increase to 27.1% (Snyder & De Brey, 2016). For the Spring 2017 term at WOU, the online undergraduate course fill rate was 96%, and traditional face to face sections were less than 3/4 full.

Driven by socio-economic realities and society's increasing focus on technology, demand for online educational opportunities continues to grow. This demand has changed more than just how the courses are delivered: non-traditional learners bring expectations of college which include flexibility, relevance, applicability, personalization, feedback, reliability, and ongoing support. Changes in student expectations now require faculty to serve in diverse and complex roles such as facilitator, guide, educationalist, technical advisor, mentor, administrator, and social director (Mayes et al., 2011). In many ways, changing student populations have redefined what it means to be an instructor in higher education.

The Evolution of Online Instructors

Many universities that have identified online education as a strategic imperative have established a centralized infrastructure (e.g., facilities, policies, processes, standards) to support faculty and students of online courses. Faculty at these universities enjoy full-service processes, where materials for their online courses are developed by dedicated support staff in accordance with accepted quality norms and metrics. In fact, some large online operations simply hire faculty as subject matter experts to provide content while the course. While these courses typically boast excellent consistency and overall polish, faculty can be left feeling disempowered, marginalized, and dubious of both the educational value of the resulting product and of their role as educator.

For reasons both philosophical and fiscal, many other institutions maintain a structure that relies heavily on "Do It Yourself" (DIY) faculty to retain an active, primary role in the design, development, and delivery of their online courses. These faculty often have little or no experience in formal design processes, but they are generally receptive to models and tools to help guide them in designing their courses. Conversely, they are often resistant to heavy-handed methods which prescribe their courses' design. Typically, DIY faculty are highly motivated to see their course succeed, but they are often unprepared for realities related to the online teaching and learning environment, such as the increased level of self-determination often exhibited by online students. Finally, since DIY faculty often create and deliver their courses non-linearly (sometimes even concurrently), traditional systems models such as ADDIE are of limited use.

The Intentional Design Framework (IDF) has been developed to assist this new breed of faculty – faculty who are interested in exploring the extended possibilities of these new learning environments, but may require guidance and assistance in the theoretical, technical, and procedural aspects of the design, development and delivery of online courses. By providing a heuristic, rather than step-by-step, view of design, the IDF empowers creativity while serving as a guide for the effective selection and application of instructional models, methods, and strategies.
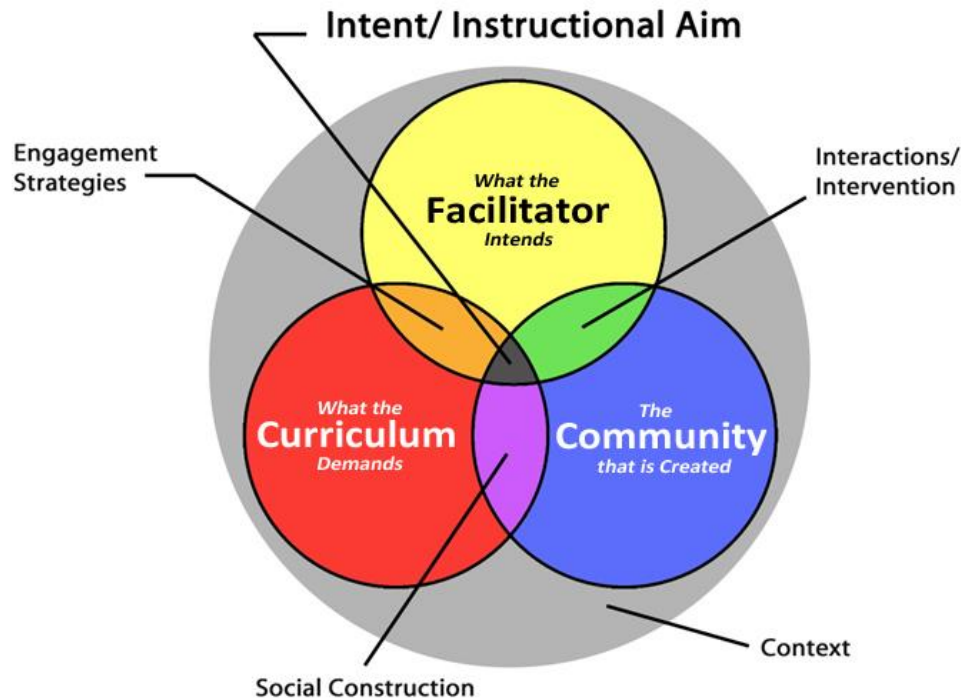
The Instructional Design Framework

Figure 1: Intentional Design Framework

As previously discussed, the step-by-step process outlined in many systems design models is not always applicable, particularly for faculty developing their own courses. Since these courses are often created and delivered non-linearly, careful consideration of the learning context can be a more effective approach to guiding the course development process. The objective of the Intentional Design Framework is to provide the instructor / designer / course-builder with a conceptual overview of the learning environment that is both generalizable and scalable. Empowered by this understanding, the instructor / course-builder can begin to assemble course elements that are appropriate to their particular context, curriculum, student population, and *instructional aim*.

The Intentional Design Framework also addresses the *balance of power* extant in the online context, where student self-determination can be significantly increased. As a result, not all elements in the learning environment (and thus the model) are within the instructor's direct control. Embracing this crucial, but often overlooked, element can inform the selection and implementation of effective instructional methods, strategies, and approaches. Also, by dividing elements into *predetermined* and *impromptu* elements, the model clearly demonstrates that not everything in the learning environment can be prearranged: *effective teaching is both Art and Science.* Finally, to afford additional insights and perspective, the model and its elements are presented from both an instructor's and a student's point of view.

Exploring the Framework from the Educator's Perspective

Predetermined Elements — *Elements that are generally static and can be established beforehand.*

Figure 2: Predetermined Elements

- **Context** *(outer gray circle):* Everything that can influence the instructional aim from outside the learning environment and community. Examples include: overarching impacts such as institutional (e.g., university, department, division) culture and roles, specifics related to the intended learner population, delivery modality, and technologies.

- **What the Curriculum Demands** *(red circle):* The "stuff they need to learn" to achieve the instructional aim; comprised of the course goals, alignment to internal and external standards, content to be covered, (pre)requisite knowledge and skills, performance expectations, and outcomes.

- **What the Facilitator Intends** *(yellow circle):* How the instructor likes to "do things," reflective of the instructor's values, beliefs, and teaching philosophy; represents what the instructor would like to see transpire throughout the course. This element also represents the *presence* of the instructor: their voice, instructional style, and influence over and guidance through the learning experience.

- **Engagement Strategies** *(red/yellow overlap):* All of the <u>predefined</u> strategies and techniques designed into the learning element. The "best laid plans" of how the instructor intends to facilitate the student's grasp and retention of the course material; includes strategies and techniques for both delivery and assessment. Engagement Strategies can incorporate any number and combination of teaching strategies and approaches that, in the instructor's estimation, will most effectively serve the Instructional Aim. It is expected that these strategies are fairly evident in the developed course materials.
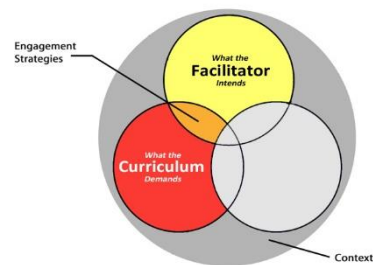
Impromptu Elements — *Elements that are created dynamically as a result of, or in response to, course delivery and activity.*

Figure 3: Impromptu Elements

- **The Community that is Created** *(blue circle):* The learning community that arises as a social response to the instructional environment. Accounts for the total "knowledge," skills, motivations, norms, biases, and interactions that students contribute to the learning environment. Although the community cannot be completely controlled by the instructor, its influence on the achievement of the instructional aim must be considered.
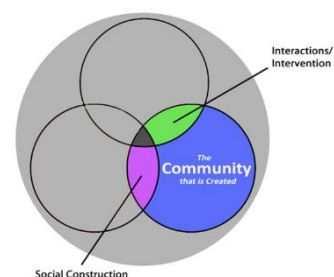
- **Social Construction** *(red/blue overlap):* The shared learning experience of the students. It is the "knowledge" created by the community as a result of the personal perspectives and experiences shared during course activities. In those interactions, students negotiate and construct new meaning, knowledge, and understanding. It should be noted that this "knowledge" could be accurate or inaccurate, useful or frivolous, or complimentary or detrimental to the learning task. As with the Community, the results of Social Construction cannot be entirely controlled or planned for, but it is important that the instructor is prepared to utilize promising outcomes – and mitigate detrimental results — of Social Construction as they evolve.

- **Interactions / Interventions** *(blue/yellow overlap):* The "on the fly" course corrections made to the learning environment in response to the Community and its Social Constructions. Interactions / Interventions are similar to Engagement Strategies with one critical exception: Interventions are *learner-defined* strategies and techniques employed in service of the Instructional Aim. Unlike Instructional Strategies, Interventions cannot be rigidly pre-planned. They account for the dynamic, real-time, "living" part of the teaching interaction: the slight differences that make one version of a course different than any other. In short, the "art"' of teaching.

The Instructional Aim — *Bringing it all together.*
At the center of the Intentional Design Framework lies the Instructional Aim, the *intent* of the activities and elements that comprise the model. For instruction to be successful, constituent elements must be arranged, tailored, and managed specifically and purposefully to serve the learner's accomplishment of the instructional aim. From the instructor's perspective, the IDF represents *instruction-centered instruction*.

Exploring the Framework from the Learner's Perspective

The unique dual perspective of the IDF, modeled from both the instructor's and the learner's perspective, is intended to provide designers and instructors additional insights to inform the selection and application of instructional methods, strategies, and activities to improve the likelihood of student success.

Figure 4: The IDF from the Learner's Perspective

In the Learner's Perspective, the structure of the IDF is unchanged, but the (predetermined) **Engagement Strategies** and (impromptu) **Interactions / Interventions** elements in the Instructor Perspective are transformed into elements based on the extent of *learner control.*
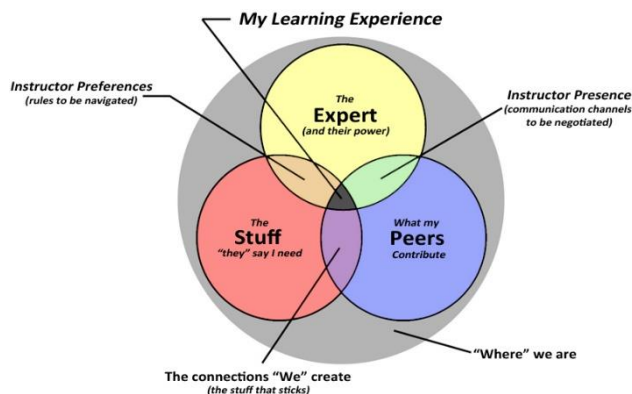
Elements Determined by "Them" — *Elements that are generally out of the learner's control.*

- **"Where" we are** *(outer gray circle):* Similar to the Context, this element represents the factors that influence the learning experience from outside the learning environment and community. This element differs from Context by encompassing pressures and influences that affect the student but are not directly related to the university (e.g., job, home life, etc.).

- **The Expert** *(yellow circle):* Many students see the instructor (the Expert) as both the judge and the jury for their learning efforts. The Expert is in control, and their power must be served for the student to successfully accomplish the desired outcome. Success, in this context, is entirely student-defined and may not coincide with the instructor's definition.

- **The Stuff "they" say I need** *(red circle):* If the student clearly sees the connection to their desired career or academic path they may regard the course content as crucially important. If the student does not see the connection, this element is more likely seen as a "hoop to jump." For instructors, it is safe to assume not all students will share the same passion in the course content.

- **Instructor Preferences** *(red/yellow overlap):* Usually reflective of the instructor's values and perspective, this element may align nicely with some students' learning preferences. For others, however, these "rules of the game" may require significant grit to navigate and overcome.

Elements Determined by "Us" — *Elements that are generally in the learners' control.*

- **What My Peers Contribute** *(blue circle):* For many learners, engagement with a community of peers is a crucial element in any learning environment. As a source of knowledge, norms, and understanding, it is often trusted more than the expert.

- **The Connections "We" create** *(red/blue overlap):* As students "make meaning" by applying concepts through the lens of the community context they begin to build connections. These connections may be related directly to elements of the course content, or more importantly, may be applicable to their job, academic career, or life. For many students, this is "the stuff that sticks."

- **Instructor Presence** *(blue/yellow overlap):* While instructor presence is not directly in the learner's control, it is influenced (and often instigated) by the behavior of the learner and the community. Ideally, the instructor presence represents a two-way communication channel where differences between what the community "knows" and what the instructor intends can be negotiated. Ultimately, the nature of the power dynamic (i.e., carrot vs. stick) resides with the instructor, but transparent communication and cooperation is recommended.

My Learning Experience — *Bringing it all together.*

From the instructor's perspective, the framework is centered on the Instructional Aim: the intent of the activities and elements that comprise the learning endeavor. The Aim can be considered the sum total of the *inputs*. From the learner's perspective, the center of the framework illustrates the *output: a*n overall student experience created through a shared accountability to the combination of shifting, interrelated elements and ongoing negotiation of the power dynamic.

Using the Intentional Design Framework

Overview:

The IDF's inherent scalability and generalizability make it an effective tool to guide decision making in a variety of contexts and levels. The framework is equally applicable and scalable whether the instructional aim is a single question on a midterm exam or an institutional learning outcome. The key to using the IDF is intentionality: all design decisions are informed by their relationship to other elements in the learning environment, in service of the Instructional Aim. To use the model, the instructor/ designer simply selects the intended Aim, and the various supporting elements can then be chosen to purposely facilitate its attainment.

For example:

If a DIY instructor wishes to use the model to build a learning module (e.g., a one week unit for an online course) the instructor would develop a learning objective, as the **Instructional Aim**, to drive the development of the module (e.g., *Compare and Contrast…*).

The instructor would decide **What the Curriculum Demands** and select content materials to provide the foundation necessary for students to successfully achieve the outcome. The materials may include journal articles, video, textbook readings, converted lectures, etc. These selections can be made based on instructor preference, experience, or external contextual elements (e.g., department, division, course level, course type).

The instructor selects the **Engagement Strategies** (e.g., explorations, engagements, interactive activities, assessments) to best serve the material and task. While it is possible for the instructor's selection of content and engagement strategies will be informed by students in the class, e.g., in cases where the course is being developed and delivered concurrently, these elements are typically decided well beforehand and are considered to be *predetermined*.

The *impromptu* elements in the model account for course activities created dynamically as a result of, or in response to, course delivery and activities. Instructors may implement Engagement Strategies establishing expectations and norms for the course learning community; but ultimately, faculty have minimal control over the Socially Constructions of the Community.

Since **Social Construction** is largely (if not entirely) out of the instructor's control, the instructor must be prepared to make 'on the fly' **Interventions** in response to the learning community's needs. Examples include posts in the discussion board to redirect tangents and clarify misconceptions, adding of remedial work, adjustments made to content and activities in response to poor exam performance, or elimination of activities which address already-mastered knowledge. Instructors are encouraged to establish and maintain varied feedback channels (i.e., formal and informal) to apprise and direct interventions. Although instructors may elect to create and maintain a selection of pre-developed 'in the can' interventions ready to be deployed as needed, faculty should also incorporate the results of interventions into engagement strategies for the next time the course is taught, whenever appropriate. In other words, if the same interventions prove necessary in most course sessions, the overall course design should be adjusted to mitigate or avoid them.

The Intentional Design Framework illustrates the complex interrelationships and fluid power dynamics of the learning environment. By identifying and accounting for all of these 'moving parts', including the recognition of which elements are within their direct control and which are not, course builders and instructors can use the IDF as a guiding tool for making informed design, development, and delivery choices.

From the Learner's Perspective

The Learner's Perspective version of the IDF is not an implementable tool per se, rather it is intended to be used as a reference. The Learner's Perspective version of the IDF is intended to provide a student advocacy voice in absentia that may help inform design decisions, and, to remind instructors of the increased levels of student self-determination often exhibited in online learning environments.

Model Strengths

The Intentional Design Framework is designed to support maximum instructional flexibility by modeling the alignment of effective/ preferred teaching methodologies with the requisite content materials in service of attaining the Instructional Aim. The IDF provides two insertion points for intentional strategies, based on both the material to be covered and the capabilities, expectations, and preferences of the students. The scalability of the model allows it to be used both in a targeted manner (for selected learning objectives) or more broadly (for every learning objective throughout the course). The scalability allows for an iterative implementation into existing courses, and it provides instructors the option to adjust courses without necessitating a complete course redesign. Finally, the heuristic framework of the IDF supports the nonlinear development processes that are the preferred by many DIY faculty.

Model Weaknesses

The primary weakness of the Intentional Design Framework is that it offers a new perspective on the teaching and learning process, challenging instructors to reexamine their entrenched beliefs about effective online course design. The innovativeness of the model may be initially disconcerting to

instructors, who may not be ready to adjust their preferred online teaching processes. This is, however, a weakness inherent in any new model.

Second, the visual simplicity of the model belies the tremendous amount of work needed to fully embrace the approach. Finally, as a conceptual model rather than a prescriptive one, the IDF does not directly address how its elements should be built. Rather, the IDF simply indicates that those elements should be accounted for.

Conclusion

While there are numerous online-course design models and templates available in the literature, these models often do not meet the unique needs and preferences of DIY faculty. The Intentional Design Framework marks a clear departure from the fluorescent glare of prescriptive, systems-based models and represents a new way of thinking about course development and delivery. With its conceptual map of the elements, relationships, and influences of the learning environment, the IDF informs course development processes in practical and useful ways, unlike traditional models. The Framework's intentionality and outcomes-based focus represents *instruction-centered instruction* and is particularly relevant in the era of assessment and accountability. Finally, by embracing both the student perspective and student self-determination, the Framework more authentically models the online learning environment and can help faculty better prepare for its unique power dynamics. The Intentional Design Framework embraces and empowers both the art and science of teaching (and design), and ideally will elicit a new way of thinking about the possibilities for online instruction.

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