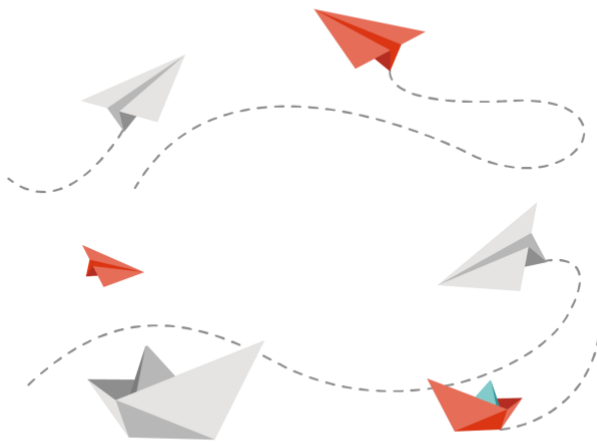


Analysis Report:

Basics Of Origami



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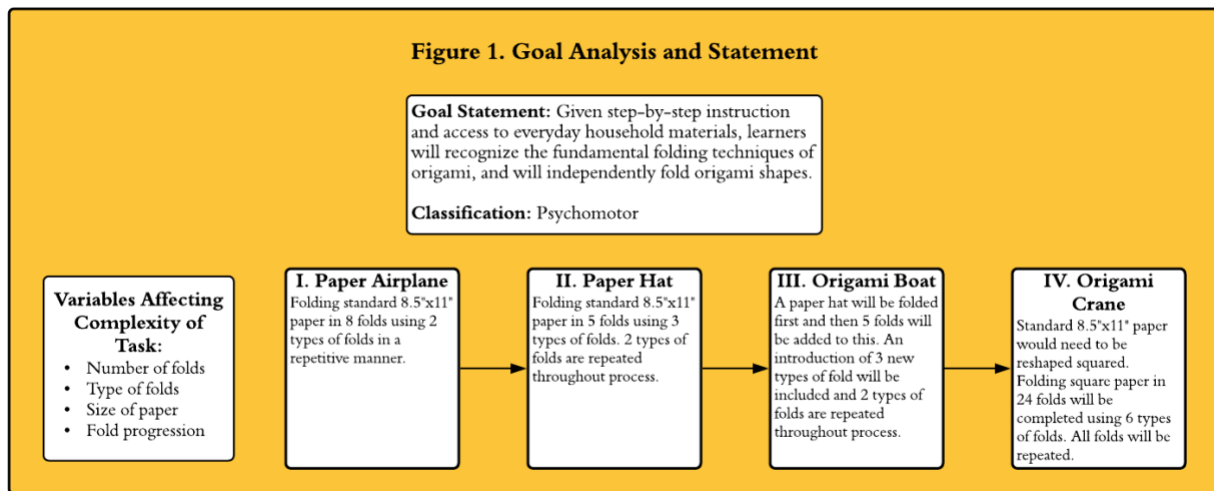
Overview

Origami Basics is an introductory training course designed to acquaint beginner learners with the fundamental folds of origami and with basic origami models. This course will be offered entirely online with open enrollment for all students, and no prior experience or prerequisite instruction is necessary to complete this course. Students enrolled in this training course will be introduced to the basic folding techniques of origami, paper folding terminology, advanced folding techniques, and step-by-step instruction for two origami models. Instruction will be offered via an online multimedia platform and students will have the ability to access all course materials at any time.

The following report illustrates a goal analysis, subordinate skills analysis, learner analysis, performance context analysis, and learning context analysis for the proposed course. This report will provide a holistic view of the content and resources necessary to create the course.

Goal Analysis

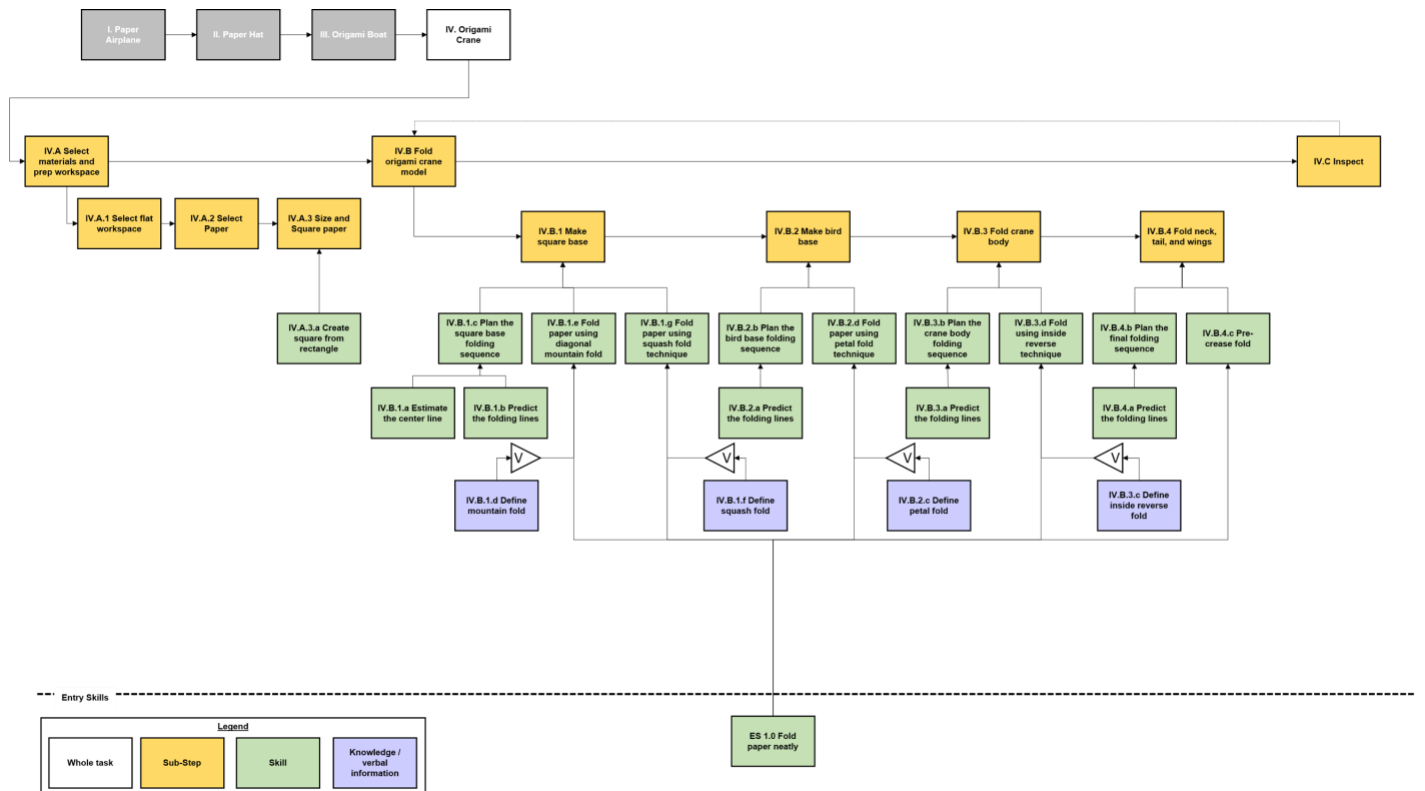
Given step-by-step instruction and access to everyday household materials, learners will recognize the fundamental folding techniques of origami, and will independently fold origami shapes. This will develop psychomotor skills for learners with at least a high school education and no previous origami experience. Using the whole task approach for this goal, Figure 1 below depicts the variants of folding origami sequenced simple to complex.



Subordinate Skills Analysis

The subordinate skills diagram presented in Figure 2 provides the sub-steps, skills, verbal information, and entry skills necessary to successfully fold an origami crane as determined using a mixture of procedural and hierarchical analysis. This analysis addresses the fourth unit of instruction in the overall course. Steps are denoted with a gold fill, skills with green, and verbal information in purple. The entry skill of neatly folding paper will not be taught, as all learners will possess this skill prior to beginning instruction.

Figure 2. Subordinate Skills Analysis



Learner Analysis

Table 1 describes the learner characteristics for students in an origami folding course, explaining entry behaviors, prior knowledge of the topic area, attitude towards content, attitude towards delivery system, general academic motivation, education and ability level, general learning preferences, attitude towards the organization, and general group characteristics to create a fuller picture of the learner in the origami folding course.

There is additional information necessary to complete the analysis such as learners' attitudes toward delivery system and organization, so it is noted below where more research is needed. Data sources can be provided by students who have completed this course, as well as students who plan to take the course. It would also be helpful to gather data from origami experts for additional insight into the skills and characteristics they feel are helpful for learners to be successful in the course.

Data from the sources described will include post-course surveys for students who have completed the course, as well as pre-course quizzes for students prior to taking the course, as well as data collected from the origami expert.

Table 1. Learner Analysis

Learner Characteristic	Data Sources	Description	Implications
Entry Behaviors	<p>Interviewed: Aidan Barbato (SME)</p> <p>Derived from the knowledge of design team members</p>	<p>Relative to Course Content: Based on related subordinate skill analyses, target learners should be able to neatly fold paper, divide lines on paper, and divide the paper into equal sections. It is assumed the majority of learners possess these skills from unrelated academic completion.</p> <p>Relative to Delivery System: Students generally are familiar with an online course delivery method. Students have experience with using the Internet, with the majority having used email and a web browser.</p>	<p>The use of post-instruction questionnaires will be used to fill in gaps in knowledge of entry behaviors. No remedial training or references necessary to address entry skills.</p> <p>Delivery mechanism should include tutorials and help functions to assist in issues navigating the tool / site.</p>
Prior Knowledge of Topic	Derived from the knowledge of design team members	It is assumed the target population has little prior knowledge in origami beyond hearing of it and seeing others produce models. Learners have participated in other paper folding activities such as paper airplane creation.	<p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p> <p>Detailed instruction step-by-step with visual and written materials necessary in the content.</p>
Attitude Towards	Derived from the knowledge of	It is assumed that interest in origami stems from previous	Content must be entertaining and stimulating (use of creative and

Content (ARCS)	design team members	attempts to create shapes by folding paper. In terms of motivation to learn origami, it is expected that most students are highly motivated because they choose to take the course as a hobby. Additional data about academic motivation is unknown and should be collected.	<p>“fun” videos for example) to help maintain learner attention. Instruction pace should be flexible so learners who grasp concepts quicker do not “waste their time”.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>
Attitude Towards Delivery Systems (ARCS)	Derived from the knowledge of design team members	It is expected that the target population has participated in web-delivered courses. In general, students are interested in experiencing totally online Web and/or Mixed Mode courses. Students are receptive to a self-paced online only method.	<p>Delivery mechanism must be easy to use, compatible with various browsers / hardware configurations, and require little to no technical “know-how”.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>
General Academic Motivation	Derived from the knowledge of design team members	It is assumed that the target population enjoys learning new skills. Students are motivated to learn and develop skills, especially complex and intricate skills like folding origami. Many of the learners will abandon the task prematurely if unable to grasp quickly.	<p>Students must realize success early and often to keep them in the full course as early or repeated frustration will negatively impact overall motivation. Each unit of instruction should end with a complete model that students can use.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>
Education and Ability Levels	Derived from the knowledge of design team members	It is expected that the target population has completed K-12 education. Students taking this course have varying ability and educational levels, with limited experience in folding origami. Learners can read at least a high school level and possess critical thinking to complete the complex shapes.	<p>Instructions should be clear with simple language maximizing visual and multimedia demonstrations.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>
General Learning Preferences	Derived from the knowledge of design team members	It is assumed that no one style fits all learners. Origami is an individual task: as such, the target population accepts and can conduct independent learning. Each student learns in different ways with some favoring visual instructions, other discussions,	<p>Content should be delivered in a variety of ways to facilitate all learners’ preferred styles.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>

		and the rest reading written instructions.	
Attitudes Toward Organization	Derived from the knowledge of design team members	<p>It is assumed that learners have no experiences with the organization.</p> <p>Overall attitude towards the organization is positive despite no prior interactions or experience.</p>	<p>Course materials require a high quality derived from expert sources so that learners have confidence in the organization's credibility.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>
General Group Characteristics	Derived from the knowledge of design team members	<p>It is expected that learners will not come from any single demographic group. Most learners in the target population are beginner adult students with no formal art training or education and are taking this course as a hobby. For most, this course is their first introduction to basic origami model building. As the course will be available on demand online, class size is irrelevant.</p>	<p>Because the only requirement is to meet the educational and ability levels, backgrounds and motivations will differ among learners.</p> <p>The use of pre-instruction interviews and post-instruction questionnaires will be used to fill in gaps in data.</p>

Additional Information Requirements: No information gaps threaten the current design. To reinforce this analysis, additional data may be needed in the future. Pre-instruction interviews of prospective learners and post-instruction surveys of learners who completed the course will be used to capture additional information for future course design revision.

Performance Context Analysis

Since folding origami does not directly relate to the profession of most learners in the target group, the site where learning will occur, and the performance of the task are the same. This enables freedom in the design as the learning site will not need to replicate specific conditions of the performance site. There is not a requirement for specialty equipment, and the instructional design will need to account for learners performing the task in a wide variety of sites. It should teach learners how to select and prepare a workspace suitable for folding origami models. The design also needs to account for the time commitment available for each learner. While this greatly effects the instructional side (i.e. the instruction should enable learners to start, stop, and repeat modules as needed to meet their time constraints), it also impacts the performance of the skill. The design should enable learners to construct models in parts or phases to accommodate time constraints in completing a model in one attempt. ^[P]_[SEP]

Table 2. Performance Context Analysis

Performance Context	Data Sources	Description	Implications
Managerial/ supervisory support	Derived from the knowledge of design team members	It is assumed that most learners will perform this task at home (likely the site where they learned the skill) or at another place away from the workplace. Since most of the learners will not employ this skill at work, managerial and supervisory support is extremely low. Likely many learners will face professional repercussions for using the skill at the workplace “on company time” or using “company materials”. A rare exception to this may exists if a learner is called upon to employ the skill in support of a holiday or other social gathering, but this will be the exception and not the norm.	Since there is no managerial or supervisory support (and likely negative repercussions if employed at the workplace), the instructional design must accommodate a variety of schedules enabling learners to use the skills flexibly, on their time. The design will also need to ensure no materials or tools that cannot be sourced easily by the learners are required. The designer will need to create questionnaires or hold interviews in order to determine if learner will employ the skills at work.
Physical aspects of site	Derived from the knowledge of design team members	It is assumed that all learners will have access to a flat, sturdy, and clear work area such as a table. Learners will also be able to source paper and any tools (scissors, straight edge, etc.) easily at a reasonable cost from local stores if not already on hand. The skill does not depend on any specialty tools, equipment, or resources so learners are unconstrained to apply the skill at almost any location. Time available at the site depends on the individual learners: how much time they can commit (even broken up over multiple intervals) and how much time does their selected model require to complete.	With the wide variety in performance sites specific to each learner, the design will need to incorporate the characteristics of a good site so each learner can select appropriately. Each learner will also have variable amount of time available: the design will need to include instruction on methods to break up model creation into parts if unable to complete in one attempt. The designer will need to create questionnaires or hold interviews in order to identify unique performance locations or characteristics.

		Learners will control or have uninterrupted access to their performance site so their time will not be constrained by the site.	
Social aspects of site	Derived from the knowledge of design team members	It is assumed that the social aspects of the site may vary greatly by the learner, but most choose to engage in small groups when completing the origami model. Learners performing this skill will do so alone. Though some may choose to conduct the task in small groups, their performance does not rely on others. Some learners will present completed models as gifts to others and may make changes based on feedback. Some learners will also select models based on the desires of whom they will gift the completed model which directly affects model selection.	Since learners will perform this task alone, the design does not need to replicate social conditions as other tasks might. However, as learners will not have ready access to assistance when constructing the models, the design will need to include a method for learners to obtain assistance from an instructor. The design should enable learners to minimize distractions presented if they choose to perform the task in the company of others. Since some learners will sometimes employ the skill to produce a model chosen by another, the instructional design should enable learners with resources for a variety of models so learners can refer to them as needed. The designer will need to create micro learns, use questionnaires, interviews, or observation to identify if any social interactions impact performance. All sources of data collection will need to be constructed in order to fill gaps and prove assumptions.
Relevance of skills to workplace	Derived from the knowledge of design team members	It is assumed that no learners will perform this skill in the workplace with the rare exception of those creating models in support of a social or holiday gathering. Origami models can be used as stress relief to individuals in tense work environments to decrease anxiety and shift focus to the completion of a task. While this enables freedom to perform wherever and almost whenever, this may bring motivational challenges to learners. If they cannot employ the skill at work, some learners may struggle with finding the desire to produce origami models since they are not “needed” for any product or task.	Origami folding is a passion project and does not relate to the workplace. As learners will conduct this task on their “own time” with “their own materials” and not for work, the instructional design should address potential motivation issues resulting from this. The design should incorporate giving learners ideas on how and when to employ the skill as well as convey the benefits to the learner they gain when folding origami (increase creativity, relaxation, joy when gifting models, etc.). The designer will need to use questionnaires or hold interviews in order to fill learner gaps.

Additional Information Requirements: The designer will need to gather questionnaires and hold interviews in order to fill gaps and prove assumptions.

Learner Context Analysis

The following table illustrates the characteristics unique to the environment in which students will be learning. The site where learning will occur, and the performance of the task are the same. The table examines four major components of the learning environment as follows: the number / nature of sites, the site compatibility with instructional needs, the site compatibility with learner needs, and feasibility for simulating the workplace. Assumptions were made by the designers' own experience in teaching and learning, while information provided by the subject matter expert is based on experience with the course content.

Table 3. Learner Context Analysis

Information Categories	Data Sources	Description	Implications
Number / Nature of Sites	Interviewed: Subject matter expert Aidan Barbato Designers' own assumptions	<p><i>Number:</i> This course will be provided entirely online and course enrollment will be unlimited. Students will have full access to the course at all times and instructional videos will be provided, but no instructor</p> <p><i>Facilities:</i> Home or office facilities will be adequate learning environments, but course materials may be accessed at any time from any location provided the learner has access to adequate internet service.</p> <p><i>Equipment:</i> All necessary folding materials will need to be found at home. Otherwise, learners will need to be accustomed to online learning from a computer. Learners will also need access to the internet and all necessary software requirements for instruction.</p> <p><i>Resources:</i> No instructor will be provided for this course. All instructional resources will be provided online and access to these resources will be unlimited.</p> <p><i>Constraints:</i> Up-to-date software requirements and adequate internet strength and speed suffice for students to succeed with the content provided in this course.</p>	<p>Most home, office, or other locations with adequate internet service should be suitable for online instruction.</p> <p>Most modern computers should have all basic software requirements necessary to access the course materials, but as some learners may have intermittent internet access, all materials should be made available for viewing on demand offline.</p> <p>All learners will have access to a suitable facility of their choosing with internet access. All students will be familiar with the basics of using online courses.</p>

<p>Site Compatibility with Instructional Needs</p>	<p>Interviewed: Subject matter expert Aidan Barbato</p> <p>Designers' own assumptions</p>	<p>The learning site is compatible with instructional needs.</p> <p><i>Instructional Strategies:</i> Instructional strategies will primarily involve online interactions with course content. No group work will be assigned. Some course content will be dedicated to evaluation for students to gauge their strengths and their areas for improvement.</p> <p><i>Delivery Approaches:</i> All students will access course materials online</p> <p><i>Time:</i> Learning time will vary per student, but initial instruction projections show about 10 hours of instruction across all learning domains. As each learner controls their learning site, time requirements will not impact use of the site.</p> <p><i>Personnel:</i> No personnel are required for live instruction, as all materials will be pre-recorded.</p>	<p>Learning site will be user friendly and compatible with online instruction and instructional needs.</p> <p>Further attention must be placed on troubleshooting common problems via an online learning module.</p>
<p>Site Compatibility with Learner Needs</p>	<p>Interviewed: Subject matter expert Aidan Barbato</p> <p>Designers' own assumptions</p>	<p>The learning site is compatible with learner needs.</p> <p><i>Location:</i> Learners will access all materials online from a home or office environment, but many locations are appropriate</p> <p><i>Conveniences:</i> No conveniences afforded to students</p> <p><i>Space:</i> Home space available for students and a flexible course schedule will allow students to work on their own time and in their own space.</p> <p><i>Equipment:</i> All equipment will be acquired by students. A basic computer with updated software, common household paper, and a flat table for workspace should be sufficient for success in this course.</p>	<p>Prior to instruction, “best practices” and “what makes an ideal learning site” details must be conveyed to the learner via online module. This will ensure the learner chooses an appropriate learning site that is compatible with learner needs.</p>

Feasibility for Simulating Workplace	Interviewed: Subject matter expert Aidan Barbato Designers' own assumptions	<p><i>Supervisory Characteristics:</i> There are no supervisory characteristics in the performance context, therefore none will be replicated in this instruction</p> <p><i>Physical Characteristics:</i> paper, flat surface, and basic folds will be simulated using online video instruction.</p> <p><i>Social Characteristics:</i> Social characteristics can be simulated via interaction on the course platform, but there will be no requirement of student interaction or group work.</p>	<p>Origami is not used in the workplace and does not require any supervision. None will be provided in this course.</p> <p>Video instruction allows very accurate simulation of physical characteristics and should be sufficient to allow learners to make the appropriate folds.</p>
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Additional Information Requirements: Questionnaires, site visits, and survey data are required to fill any gaps or prove any assumptions made by the designers.