



VIVID VISION

Learning Connections

PREFACE: *A Vivid Vision is a conceptual exercise in which the successes and challenges of an effort are written in hindsight, from a future perspective. Therefore, the following describes Learning Connection's successor c. 2020, one year post-launch. Please note that this is a living document and likely susceptible to significant changes. Most, if not all concepts herein are compatible with previous iterations, albeit slightly modified. Moreover, the following is in no way exhaustive.*

I) PRIMARY, SECONDARY, & UNINTENDED USERS

The spiritual successor of Learning Connections (herein, “the website” or “the site”) is designed to serve English Language Learners and individuals with limited literacy and numeracy (herein, “primary users”). However, the website serves a variety of other end users, including employers, academicians, workforce development program staff, counselors, ESL instructors, college and university admissions officers, and a host of other actors interested in education, workforce development, and economic empowerment (herein, “secondary users”). Moreover, secondary users often register and build profiles for the institutions and organizations they represent, many of which have a vested interest in the site's continued use by primary users, as well as the creation of new, relevant, and digestible content.

Although the majority of the website's features are intended for primary users, secondary users have access to features that are designed to enhance primary users' experiences, as well as share resources with one another via forums à la virtual quality circles. In addition, secondary users have begun to actively incorporate the website in their social impact measurement, client management databases, and as integral components of their education and workforce development programs.

Since launch, a number of unintended users have registered, including adolescents researching potential career paths, vocational training, and matriculation into secondary education, volunteers seeking local programs to devote their time and talent, and both literate and numerate adults who've sought advantage and empowerment through the vehicle of accessible, data-driven economic and personal management.



II) PRESENTATION, AESTHETICS, & FIRST GLANCE

At first glance, new users are immediately impressed with the quality of the website, resembling something akin to *Glassdoor* or *LinkedIn*, albeit more visually-navigable and less overwhelming. Visual elements are sharp, savvy, and minimalist, including imagery that is inclusive, diverse, respectful, and absent condescension. Bountiful whitespace fosters intuitive navigation, while the website's prominent features are clearly delineated in the navigation bar. The site's presentation carries a professional gravitas, with a complementary color palette inducing positive emotions.

Overall, the presentation evokes seemingly contradictory emotions. Primary users intuit deference - they know full well that this new instrument treats seriously the subject of their livelihood, of their future, and of the future of their loved ones. Yet, the site evokes a welcoming, almost tantalizing spirit of curiosity and thirst for exploration. As a rule, the site never inundates primary users with seas of text. Invariably, primary users are, at any given time, in absolute and unquestioning control of the amount of information that lies before them.

First-time visitors are prompted with two options: registration and log-in. In registering, users are asked for basic demographic information, a verifiable email address, a zip code, and their intent - i.e. whether they are primary or secondary users. Following registration, users are met with a brief series of introductory pages explaining the purpose of the site, as well as simple instructions for navigating the website, visual aids, and optional narration. The introduction concludes with a tutorial demonstrating profile-building, clearly conveying that each step towards completing user profiles will unlock content tailored specifically to their needs. A brief summary of the "Profile Completion Meter", à la *LinkedIn*, immediately tasks users with an achievable challenge. These components evoke a sense of familiarity akin to first visiting *G Suite* or other online tools. At the very outset, the tutorial is the *tour de force* for the website's full potential.



III) FEATURES

The website hosts a variety of valuable features tailored specifically to meet users' needs, aspirations, and demographic profiles. Primary users, who've glossed over data and charts past, if not entirely ignored them, are intrigued by the data visualizations intended near-exclusively to empower them in making informed, data-driven decisions. They are never overwhelmed, as they may elect to view and filter visualizations that meet their intentions. Though visualizations are intuitive and minimalist, autogenerated text narrates each graphic in a user-centric context. As a rule, no extraneous language is used; *all communication* is plain, concise, and valuable.

Interactive Mapping Dashboard

Upon registering, the website becomes a virtual sandbox demanding exploration. Despite providing limited demographic information, users may explore several website features for occupation- and education-related research. The site's interactive mapping dashboard is automatically populated with service providers, informed by the National Literacy Directory, and is filterable by service, distance, and other indicators. Each location is accompanied by the organization's profile and contact information. The dashboard's choropleth map allows for easy geospatial visualization and comparison of several indicators for select professions (e.g. median salary, frequency, etc.) at state- and county-level granularity.

Discussion Forums

Registration allows users access to website forums which facilitate and promote informal discussions on user-generated topics, e.g. salary negotiations, methods of accruing experience, honing skills, continuing education, etc. Forums may be explored via keyword searches filterable by date, relevance, user views, etc. Moreover, the site's forums also function as a platform to alert administrators to website errors, voice opinions on website features, and provide inspiration for new content, providing valuable qualitative data for managing internal performance. Forum rules are clearly visible at all times to ensure appropriateness. New users must agree to the terms and conditions in a brief and concise prompt before viewing a tutorial on forum navigation, karma, badges, and particular emphasis on cyber security.

A simple forum karma system has created a self-reinforcing and self-regulating system, allowing users to award points to posts and responses for what they judge to be thoughtful and important - the most popular responses (i.e. the most up-voted) automatically frontload at the top of each thread. A small but dedicated cadre of users have developed within the first year of launch, pursuing digital prestige and measurably-positive reputations for valuable content creation. The more concise, clear, and understandable a topic or response has been, the more likely it is read and rewarded. Responses using direct, plain language, as well as valuable, relevant topics rise organically in prominence and, in effect, self-reinforces precision, brevity, and plain language use.



Topics and replies include the authors' usernames and badges, indicating profile completion, membership duration, and primary or secondary user status. Profiles are accessible to other users, featuring "karma", affiliated organizations, post and reply histories, customized avatars, bios, and the option to send private messages. These forums have led to several professional and academic relationships being established, including online mentorships and job offerings.

Indicators & Visualizations

Unlike *Glassdoor* or *PayScale*, which rely on user-submitted salary information, the website provides data and generates their visualizations based on open-source data informed by Bureau of Economic Analysis (BEA), Bureau of Labor Statistics (BLS), and most importantly, the Occupational Information Network (O*NET). These data provide historical values and trends dating back to 2012 on medians, means, and first and third quartiles on multiple academic, professional, and economic indicators, up to and including quantified skills and abilities common to select professions. Interactive dashboards frame many visualizations via choropleth maps, filterable by national-, state-, region-, and county-level granularity. In effect, primary users may explore one or a number of professions locally, nationally, and anywhere in between, easily selecting and filtering occupations and indicators using drop-down menus for comparisons. Each visualization is collapsible, at the discretion of users, to avoiding overwhelming them. Statistical jargon is substituted with plain language, e.g. "median salary" becomes "most common pay", "mean" becomes "average", etc. Further, all indicators are accompanied by an API for exporting datasets for additional analysis. Dataset and visualization maintenance is automated via a "canonical backend" à la *Datawheel*, wrangling and backporting as new data become available.

Occupation Profiles & Jobs Metasearch Engine

A series of occupation profiles are organized in tile formats, categorized and filterable by sector. Each profile describes a brief overview of occupations, requisite skills, abilities, traits, experience, and education, as per O*NET, à la *My Next Move*, as well as generalized work activities (GWAs). Many occupation profiles include videos featuring on-the-job footage and interviews.

Primary users are able to search for local job offerings via a metasearch and aggregation engine based on user locations and informed by national job search websites such as *Indeed*, *LinkedIn*, *Monster*, et al. An interface allows for filtering by distance, salary range, and other criteria. Vocational training and continued education programs are also aggregated in similar interfaces.

Base Functions of Website

On rudimentary level, primary users may perform job, training, and continued education research. Users determine reasonable salary ranges, whether their market value is commensurate with



their compensation, and even consider relocating to greener, more lucrative pastures. The site has been lauded for its accessibility and inclusivity, allowing users to effortlessly shift their decision-making towards data-driven self-governance. Secondary users are able to use these data to inform their businesses, target programming, effect strategic philanthropy, etc.

Building User Profiles: The “Profile Completion Meter”

At every opportunity, primary users are reminded that additional data, such as their occupation eligibility, require users to build their profiles via assessments. Output from salary information queries, local training or academic resource queries, e.g., are accompanied by solicitations in the form of icons brandishing messages such as “See if you have the skills for this job”. If an assessment has yet to be completed to determine eligibility, users are coaxed, rather than coerced, to complete assessments through prudent use of visual navigation. Each assessment completed provides increasingly-accurate recommendations.

On Assessment Instruments & Rewards

Assessment instruments have been designed to measure several dimensions of primary user profiles, including: (1) Skills & Abilities, (2) Educational Attainment, (3) Literacy, (4) Numeracy, (5) Experience, (6) Interest, and (7) User-Defined Aspirations. Their intended purpose is threefold: (1) Collect pre- and post-intervention user data for social impact reporting, (2) Mentor and encourage users by aggregating data and resources for realizing their self-defined aspirations, and (3) Realistically redefine aspirations if too timidly-envisioned, inspiring users to achieve full potential.

These assessment instruments provide robust, accurate evaluations of primary users’ literacy and numeracy abilities, having been developed in consultation with several industry-leading experts and using metrics congruent with O*NET data to maintain its integrity. Assessment content is varied, so no one user takes the same assessment twice. A bank of one thousand questions, measuring varying levels of literacy and numeracy, guarantee variation while maintaining precision. Assessments especially intrigue users who wish to measure their improvement over time and are not a burden on user experiences. It is impressed on users that the completion of all assessments instruments is necessary for a holistic and comprehensive diagnoses; i.e. the whole is greater than the sum of its parts. Users are reminded to retake assessments after certain intervals, providing valuable pre- and mid-intervention, as well as outcome-level data.

Skills Assessment & Visualization

Requisite skills and abilities are informed by O*NET’s open-source data, albeit redefined using plain language and aggregated to prevent overwhelming, multivariate visualizations. Primary users’ skills and abilities are visualized using a solid-filled radar distribution, overlaid with a distribution outline of an occupation’s requisite skills. Multiple occupations may be compared



using additional layers, filtered by color at the discretion of the user, while autogenerated narratives explain where gulfs may exist as well as strategies to reconcile those gulfs. Stacked bar charts accompany radar distributions to providing additional context à la *Data USA*.

Other Assessments & Visualizations

Literacy, numeracy, and experience requirements as per O*NET, et al., are visualized via stacked bar plots to identify and compare proficiency gulfs. Using an interactive dashboard, these data are filterable via dropdown menus and allow for multi-profession comparisons, including time series exhibiting trends in select indicators and assisting users in managing expectations. Most visualizations automatically include one to two other related occupations, providing both context and convenience. When appropriate, aspirational, user-defined occupations automatically appear with comparisons for motivation and context.

Additional Features

Other features include an automated resume- and cover letter-builder, scholarship metasearch engine and aggregation interface, fact panel, career mapping tool, newsfeed, and user-generated testimonials. The more complete are user profiles, the more accurately and effectively the scholarship engine pipelines them to eligible users, the more completely resumes and cover letters are autogenerated, etc. The fact panel, a side pane which cycles through hundreds of literacy-, education-, and professional development-related facts, motivates users and evokes self-reflection on both themselves and loved ones. Lastly, the newsfeed provides a self-sustaining platform hosting user-created or user-submitted content on lifelong learning and workforce development. It has consistently provided brief, informative, and valuable articles written in plain language. Frequent postings of user testimonials, including both triumphs and tribulations, have elicited overwhelming responses from users, including advice, empathetic remarks, etc. Not only have primary users improved their own literacy by reading such posts, but an inchoate, tightly-knit community has developed among frequent users.

User Avatar & Mascot Narration

Following registration, primary users may choose one of three options in how the site communicates information: (1) Default, autogenerated text, narrated in the second-person and absent additional graphics, (2) Default, autogenerated text, narrated in the second-person by the website's mascot, a unisex animal familiar akin to the owl, "Duo", from *Duolingo*, and (3) Default, autogenerated text, narrated in the first-person by a user-customized avatar. In exploring professional or academic options, the mascot or avatar dons related clothing and paraphernalia, and earning badges, acquiring karma, etc. rewards users with additional customization options.



IV) MISCELLANEOUS: EMOTIONS, VALUES, & COLLABORATIVE EFFECT

Users are drawn to the website for its professional, aesthetic layout, user-friendly features, minimalist approach, and visual navigability, as well as an increasingly-cultivated sense of community, inclusivity, collaboration, and support.

The website evokes a number of emotions, including confidence, inspiration, motivation, and intrepidity in pursuing user-determined aspirations. Timeframes provide context for achieving these goals, evoking a spirit of patience and a proactive attitude. Animated forum discussions challenge worldviews and shatter stereotypes. The algorithmically-determined recommendations foment the spirit of a mentor-mentee relationship and forums invoke a sense of community, social safety net, and shared identity.

Industry leaders have described the website as peerless. It is user-centric, engaging, interactive, and immersive, reaching hitherto underserved and vulnerable populations. Until now, these target audiences have never been able to access, let alone understand the power of data-driven decision-making in shaping their academic and professional futures. It has eliminated isolation among illiterate peoples, shattered dualistic stereotypes of an “us and them” worldview, and opened the doors to self-reflection and earnest exploration of life’s possibilities.

The unprecedented effectiveness of the website has fostered numerous collaborations among local organizations via alliances first identified using the website’s interactive community resource maps, many of which were later cultivated in discussion forums. Entities with previously little online presence have begun to register their organizations for increased visibility. Forums specific to particular cities, counties, and regions have begun to leverage these methods of mass communication for enhanced community outreach and more effective collective impact.