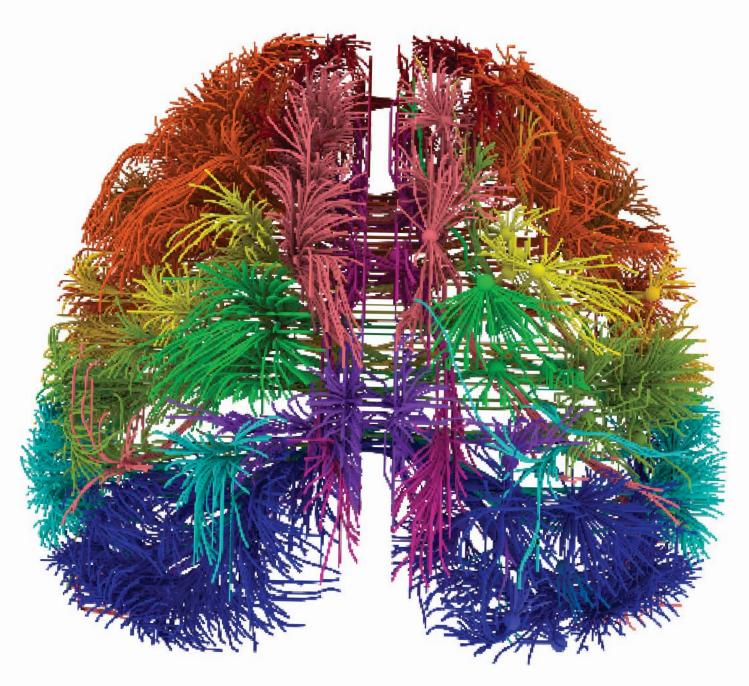


innovation from exploration

whether teacher or student - learning is a lifelong adventure!





three-dimensional wiring diagram of the mouse brain



"Creativity and innovation come from curiosity and exploration"

What we believe in

We sit at a very exciting time in the evolution of education. Schools have a difficult time providing unique and individual learning experiences for students due to limited class-room staffing, funding and (resources) instructional tools. However "adaptive" education has the power to transform that paradigm. Delivery of content and curricula in the class-room must adapt to the logical, visual, experimental, and conceptual learning styles and preferences of all ages of students.

idoodlelearning creates unique educational products and programs that foster development of creativity and empower people of all ages to discover their own solutions for becoming expert learners and influential thinkers of the future.

idoodlelearning provides educators with devices and strategies to teach more creatively/ efficiently and learners with tools to develop skills/competencies at a greater depth and communicate more effectively for a growing knowledge society.







idoodlelearning

Passion for Exploration, Knowledge and Discovery

Guiding Educational Philosophy of idoodlelearning: Building Influential Thinkers of the Future

Amber Agee-DeHart: Chief Education Officer, idoodlelearning

Our mission is to help students embrace their curiosity, develop logical and methodical thought, engage in creative problem solving, and experience the joy of learning something new that ignites their imaginations and fuels their determination.

The world economy is changing from an industrial to a knowledge society. Where ideas and knowledge are commodities, a new set of 21st century skills must be mastered and are necessary for success in this burgeoning global economy. A new, borderless education space is evolving to help teachers and students develop essential skills in knowledge construction, creative thinking leading to innovation, communication and collaboration, problem solving, flexibility and adaptability, and the ability to learn how to learn, that will prepare them for a dynamic, interdependent global economy.

To ensure that idoodlelearning products and programs are aiding students and educators in acquiring 21st century and higher order thinking skills, our design and development are grounded in well-researched and universally accepted educational pedagogy and instructional design.

idoodlelearning subscribes to the constructivist learning cycle as an instructional design model. The constructivist learning philosophy posits that learners construct their own understanding and knowledge by building upon experience and reflection through asking questions, exploration, and evaluation. Developing deeper understanding of how to apply knowledge in different settings and situations to solve problems is a key aspect of constructivist learning.

In comparing constructivist learning practices and environments to frameworks that promote the acquisition of 21st century skills, there are common themes or threads that bind them together: learning how to learn, knowledge construction, creativity, collaboration, and learning through real-world experiences. Educators should construct a learning environment where students can gain those authentic experiences that make learning relevant and purposeful.

Developing creative intelligence in students and educators is a methodical and iterative process.



Preparing for an Evolving Knowledge Economy

A knowledge society is driven by economic systems where ideas and knowledge function as commodities Anderson (2008) (as cited in Voogt & Roblin, 2010, p. 1). To prepare students for the knowledge economy propelled by globalization and internationalization, a new educational space/paradigm is emerging. Lawn (2001, p.174) describes this educational space as fluid, heterogeneous, and polymorphic. It is a borderless space of flows. "Borderless education encompasses distance learning, mobility of students and teachers, along with commercial companies and is aimed at providing a level 'playing area' for supply" (Lawn, 2001, p. 181). As a result, there is an emergence of a whole parallel global education industry which [has] either set itself up to offer supplies to education or [has] set itself up alongside and in cooperation with school education. (Kenway, 1998) (As cited in Lawn, 2001, p.181)

Lawn (2001, p.178) asserts, that today the [global market] is using education to build social capital as the means for economic productivity. Educators must prepare students for jobs that do not yet exist. (Fisch& McLeod, 2009; Voogt&Odenthal, 1997 as cited by Voogt and Roblin,

2010, p. 1) This new knowledge economy will require workers to be equipped with the following 21st century skills or competencies: (1) understanding of information, (2) knowledge construction, (3) adaptability, (4) finding, organizing and retrieving information, (5) information management, (6) critical thinking, (7) interpretation of complex patterns, and (8) team work. (Anderson, 2008) (As cited by Vooqt & Odenthal, 2010, p.1)

However, a society is not just composed of workers and commodities. In a knowledge society, enhancing the knowledge and skills of all citizens and supporting them to become lifelong learners, defined as all purposeful learning activities in a person's life, increases economic productivity. (Lawn, 2001; OECD, 2004) Lifelong learners have a specific identity (Lawn, 2001, p.177), they:

"Changes in the educational environment should mirror changes occurring in a more global

economy and

society"

- continually expand and renew a their fund of knowledge;
- are competent, as defined as possessing a lifelong basis for creativity, flexibility, adaptability, the ability to learn to learn, and to solve problems;
- have a solid, broad-based education and a set of skills (technological, social and organizational) conducive to innovation;
- pull from a 'range of transversal competencies including the understanding of a diversity of cultures, competence in several languages, and the entrepreneurship which leads to the creation or development of businesses' (Council of the European Commission, 1997)

idoodlelearning Bridges the Divide

Global education developments and innovations cross geographic and conceptual borders (Lawn, 2001, p. 174), and educational environments should echo those same themes. Changes in the educational environment should mirror changes occurring in a more global economy and society. Traditional education paradigms, characterized by instructor-centered learning, are ill-equipped to prepare students for a borderless knowledge society. Often educators have little to no work experience outside of the academic world; therefore, it is difficult for teachers to guide students to acquire 21st century skills. (Voogt &Roblin,

2010, p.32) Pre-service and in-service educator professional development opportunities that demonstrate how to use instructional tools and methods to foster acquisition of 21st century skills are imperative for assisting teachers in engaging students in the learning process to develop those same skills.

In light of these issues, idoodlelearning addresses these complex needs by designing and creating tools and programs to help students to think creatively, to build their knowledge and to increase their depth and breadth of real-world experiences. The immersive learning programs, such as Cubes in Space™ and In My Own Design™, provide opportunities to develop wisdom much earlier than their peers. And it is that wisdom and depth of experiences that allow students to perceive issues from different perspectives. Hence the students make more creative connections between things they observe and learn enabling them to become better critical thinkers and effective problem solvers.

Constructivist Learning & 21st Century Skills

In comparing constructivist learning practices and environments to frameworks that promote acquisition of 21st century skills, there are common themes or threads that bind them together; learning how to learn, knowledge construction, creativity, collaboration, and learning through real-world experiences. Educators should create and foster a constructivist learning environment where students can gain those authentic, real-world experiences that make learning relevant and purposeful.

Hudson (2002)(as cited in Helland, 2004. p.620) states that constructive learning environments and activities must be designed to include issues of individual differences, diversity in groups, and structural inequalities that arise in a globalized workplace. People must be able to work collaboratively and in teams to solve open-ended problems. These are the "soft skills" or 21st century skills with which students need to be equipped prior to entering the workforce. According to Helland (2004), successful employees in today's global economy depend on more cerebral than manual skills that were characteristic of a past industrial-dominated society. The constructivist learning environment, with its focus on shared problems solving

and making meaning by reasoning and reflection on experiences closely mirrors the training needs of the 21st century workplace (Helland, 2004, p. 624).

There is a strong correlation between the goals of 21st century learning frameworks and constructivist learning principles. Social constructivists, such as Lev Vygotsky, believed individuals make meaning by engaging in dialogues and activities about shared problems or tasks (Helland, 2004. p. 619) indicating that learning is a social process. Vygotsky stressed the importance of learning as a social process for cognitive development. In constructivist learning, knowledge must be constructed from one's own experiences (Jonassen, Peck & Wilson, 1999) (as cited in Helland, 2004, p. 619). However, Helland (2004, p.619) asserts that an experience does not educate if it does not lead to broader and deeper experiences. The ability to reflect on past experiences, apply those experiences to new educational or situation contexts, and engage in dialogue that lead to new perspectives or viewpoints on problems and issues are the tenets of constructivist learning.

Jonassen (1994) (as cited by Murphy, 1997, p. 10) summarizes how the knowledge construction process can be facilitated:

- 1. Provide multiple representations of reality;
- 2. Represent the natural complexity of the real world;
- 3. Focus on knowledge construction; not reproduction;
- 4. Present authentic tasks (contextualizing rather than abstracting instruction);
- Provide real-world, case-based learning environments, rather than pre-determined instructional sequences;
- 6. Foster reflective practice (metacognition);
- Enable context-and content dependent knowledge construction;
- 8. Support collaborative construction of knowledge through social negotiation.

The social and collaborative learning process takes place in Vygotsky's theorized, zone of proximal development. This zone is a fluid time and space within peoples' lives where they learn and gain more knowledge from social interactions with more experienced individuals such as teachers, mentors, or professionals. The zone of proximal development is found between that time and space of what students already know and have mastered and from what they will have great difficulty mastering. Learning

environments that illustrate social constructivism should support collaborative learning, problem-solving and shared dialogue among learners and provide opportunities for more experienced and knowledgeable individuals to help students and teachers move into their zone of proximal development (Helland, 2004, p. 619). It is important to note that lifelong learners remain in the zone of proximal development.

Wilson (1996, p.5) asserts that a constructivist learning environment is a place where learners may work together and support each other as they use a variety of tools, technologies and information resources in their guided pursuit of learning goals and problem solving activities.

idoodlelearning has designed secure, online collaborative learning spaces that can be tailored to instructional needs or requirements.

In this collaborative and technology-based learning environment, learners are presented with opportunities to work together to develop, compare, evaluate, and understand different viewpoints on an issue towards the end of creating and doing something useful and meaningful (Bednar, Cunningham, Duffy & Perry. 1992) (Jonassen, et al., 1999) (as cited in Helland, 2004. p.620).

To this end, idoodlelearning has designed secure, online collaborative learning spaces that can be tailored to instructional needs or requirements. Supporting inquiry-based learning, challenges or problems are presented in unique and engaging ways. Students can work together, either synchronously or asynchronously, with their classmates or with peers in another country on projects or problems in any subject or topic. Students build on their knowledge and have the opportunity to learn and apply such key 21st century skills as negotiation, working within project teams, communicating ideas and personal viewpoints in an appropriate manner, and shared problem solving.

Creativity and Problem Solving

Developing creative intelligence in students and educators is a methodical and iterative process. This process drives the creation and development of constructivist learning environments, inquiry-based learning, and 21st century skills and competencies. There is a pedagogical journey with its genesis in metacognitive thinking/reflection. Metacognition is simply defined as thinking about thinking and begins the instructional design process with questions such as: What processes do we want students to develop and practice? What will we do to assist them in developing those processes and skills? How will we know if they are developing and putting into practice those processes? (Wolfson, 2007, p.1)

Students learning to experience the fulfillment that comes from focused attention on a problem, persevering to learn and explore to derive possible solutions, understanding and predicting consequences resulting from different choices and the ability to communicate in a collaborative environment about the problem or potential solutions are hallmarks of creative intelligence. According to the Akron Global Polymer Academy (2013):

"Problem solving is a complex behavior. Regardless of how much experience or knowledge a problem-solver has, each new problem situation is in some ways unique, requiring creative application of strategies for posing, solving, and resolving the problem at hand. Metacognition is the awareness and understanding of one's self as a thinker. Expert problem-solvers and effective thinkers of all kinds are usually self-aware thinkers. They plan strategies for attacking thinking problems. When they hit blind alleys, they stop, analyze, and reflect. Effective thinkers pose alternatives for themselves and choose among them. Students' ability to reflect on their thinking "as thinking" and to analyze their own strategies are their metacognitive skills."

There are numerous attributes of people when they behave intelligently which include but are not limited to persistence, managing impulsivity, thinking flexibly, metacognition, striving for accuracy and precision, questioning, applying past knowledge to new situations, thinking and communicating with clarity, creating –



imagining – innovating, taking responsible risks, and thinking interdependently. These "Habits of Mind" (Costa and Kallick, 2000) are characteristics of what intelligent people do when faced with problems where the resolution is not immediately apparent or easy to derive. Costa and Kallick (2000) (para. 3) assert that activating "Habits of Mind" indicates a person values one pattern of thinking over another which demonstrates making a conscious or unconscious choice about which pattern should be employed to apply to a situation or to solve a problem. These higher-order thinking skills are consistent with the competencies people should acquire, develop and apply to be functional and successful in academic or professional settings.

idoodlelearning recognizes that not every educational institution has access to technology such as broadband internet or even computers. idoodlelearning also understands that technology is merely a tool that enables instruction and learning. As massively multiplayer online games are one of many means for students to think and work collaboratively, so too are low-tech or no-tech tools.



idoodlelearning believes that every student, no matter the location, should have access to meaningful learning experiences that develop creative and critical thinking skills. Therefore, IDL also develops a series of complementary, non-digital manipulatives and corresponding curriculum that can be used with any age group and for any subject. These no-tech devices aid educators is delivering instruction in more creative and engaging ways and provide students with options of how to demonstrate their depth of knowledge and understanding.

Educator Professional Development

Analysis of different 21st century skills and competencies frameworks (P21, European Union, OECD, UNESCO, En Gauge, National Education Technology Standards (NETS), Assessment and Teaching of 21st Century Skills (ATCS) by Voogt and Roblin (2010) reveal that there is insufficient clarity about what type and the best means of professional development support to provide educators to help them prepare students for careers. Voogt and Roblin (2010, p.32) posit that based upon analysis of 21st

century skill frameworks, very little attention is given to providing intellectual, emotional, and social support to teachers as they try to meet the challenging demands of a rapidly changing future and society. However, Voogt and Roblin's (2010) analysis of frameworks revealed there are commonalities in the acquisition of 21st century skills that are best supported by specific pedagogic techniques: (1) problem-based learning; (2) collaborative learning; (3) experiential learning; (4) formative assessment; (5) comprehensive use of technology to enhance learning. These commonalities give educators a strong foundation upon which to build to provide students with authentic learning experiences to acquire skills necessary for the future technology and knowledge-based workforce.

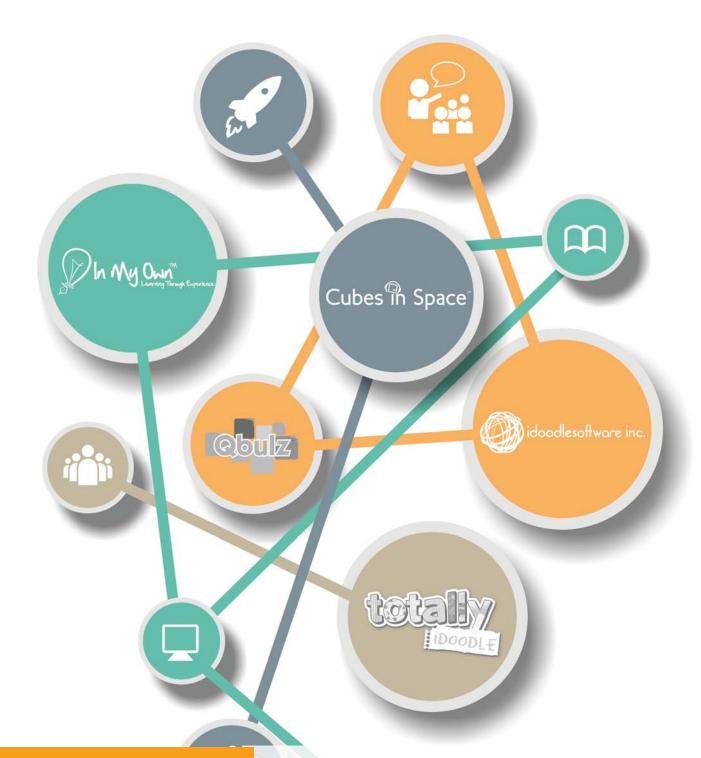
idoodlelearning recognizes and understands the complex challenges with which educators are faced each day. Whether in an affluent city or in a rural area with limited resources, educators want support and quality in training. In response, idoodlelearning provides exceptional opportunities for educators by utilizing our expertise and global networks to create relevant and inspiring professional development programs where pre-service and in-service educators are exposed to authentic learning experiences, are supported by professionals outside the academic realms, can develop their technological skills and deepen content knowledge, are able to connect with peers and professionals to share ideas and solicit feedback. And by allowing educators to remain in their zone of proximal development, they will learn and become comfortable with meaningful and powerful instructional strategies and tools that ultimately benefit the students' learning experiences.

Summary

idoodlelearning wants students to recognize patterns in their intellectual and learning behaviors that will guide them to make more informed decisions that positively impact them in academic or societal settings.

Everything that idoodlelearning envisions and creates in intended to foster and guide multidimensional and effective thinkers to use a depth of developed cognitive skills to solve complex problems and understand how to apply and positively act on the knowledge they acquire. We want to help build the influential thinkers of the future.

References: www.idoodlelearning.com/docreferences



idoodlelearning

Our Great Educational Philosophy Comes With Great Educational Products



idoodleprograms

From around the world and even into space - our programs are changing the lives of teachers and students.

If students are equipped with the right knowledge, skills, tools and experiences, they become empowered to direct or change the trajectory of their lives.

Our programs provide immersive, inquiry-based, and authentic learning experiences where students learn by doing and are challenged to apply and transfer their knowledge and skills to other contexts, situations or settings.

With a strong emphasis on the process of the development of critical, systems, design, and creative thinking skills, students are provided opportunities to design experiments or technologies to be launched and tested in space. Students can also combine their passions or interests with our programs that focus on developing entrepreneurial knowledge and business management skills to help move their ideas forward from concept to the marketplace. Whether on a local or global scale, small businesses are the foundation and drivers of individual or collective economic and social success.

"Entrepreneurs are not born...rather they become through the experience of their lives" Professor Albert Shapiro – Ohio State University.



Examples

*	Cubes In Space
*	Rubik Learning Initiative
*	Totally idoodle
*	In My Own

"As I participate in CiS activities, I am rejuvenated by what I see in the students as they discover the joy of learning and experience the value of applying scientific and technological principles to solve challenges of all kinds."

idoodleprofessionaldevelopment

Growing and expanding your mind are powerful driving factors for any great educator. We can help nuture your professional growth.

In an educational world driven by assessments and accountability, teaching and learning can become a job instead of a passion. We want to give educators options and tools that enable them to deliver instruction and content in ways that make the classroom an inspiring and thought-provoking learning space again!

idoodlelearning recognizes and understands the complex challenges with which educators are faced each day. Whether in an affluent city or in a rural area with limited resources, educators want support and quality in training. In response, idoodlelearning provides exceptional opportunities for educators by utilizing our expertise and global networks to create relevant and inspiring professional development programs where pre-service and in-service educators are exposed to authentic learning experiences, are supported by professionals outside the academic realms, can develop their technological skills and deepen content knowledge, are able to connect with peers and professionals to share ideas and solicit feedback.

Offering bespoke or "off the shelf" workshops or institutes, no matter the topic or format, educators will become comfortable with meaningful and powerful content, instructional strategies and tools that ultimately benefit the students' learning experiences.



Examples

- NASA Langley Research Center
- ✓ National Institute of Aerospace (NIA)
- TechLink Trinidad
- ✓ Virginia Space Grant Consortium

"We used the activities with the students and they thought it was great! I personally love the way we can modify these activities to include a technology component"



idoodlesoftware

The future of the classroom must be intuitive, collaborative, predictive, adaptive and inspiring. We design the tools that makes it happen.

Our technology pedigree goes back 25 years with our executives having been responsible for products being sold into six of seven continents and even into space with products on the International Space Station. Our educational software offering has just as an impressive history with sales to over 8,000 schools representing 4,000,000 students around the world.

idoodlelearning knows that students crave robust and meaningful learning experiences. During instruction, they want to know, "how am I ever going to use this in the real-world?" Our suite of products and programs are specifically designed to engage students' minds and provide them with what they want - to gain skills and knowledge to help get them ahead in the world.

Education is the cornerstone for growth. For only with the educated mind can good solid decisions be made, and new companies be built, and jobs be created. We are committed, and our software is designed, to help students become positive contributors and integral parts of their community.

Examples

STEM: Science Technology Engineering Maths

Creative Writing

English as a Second Language

Language Arts

"I am truly amazed at what your software can accomplish with students...I look forward to working with you as I begin to really engage my students and faculty in an educational product I fully believe will make a difference in how teachers teach and students learn."

idoodlecurriculumdevelopment

Curriculum is more than just coursework or a series of educational activities that connect content, instruction and assessment.

Curriculum should also incorporate experiences that allow students to discover, identify and tap into their hidden talents.

idoodlelearning's holistic approach to curriculum development encompasses the students' desire to be engaged and challenged, and to use their imaginations, talents and skills during the learning process. Reaching formal and informal education settings, content and curriculum developed by idoodlelearning teach creativity, innovation, and design concepts through an integrative and experiential approach.

idoodlelearning curriculum incorporate elements of play, exploration and discovery. Students need a safe environment in which they can explore, take risks, learn by trial and error, experience "Aha!" moments, and be persistent in pursuit of solutions.

Whether using stand-alone activities or robust learning modules that integrate our educational apps, manipulatives, and content units – teachers have options and flexibility in reaching unique learners' needs while meeting mandated standards and competencies required to be taught.



Examples

- NASA Langley Research Centre
- ✓ National Institute of Aerospace (NIA)
- BrightPath Foundation
- TechLink Trinidad

"Your educational framework and global perspective lead me to believe that idoodle has the foundation and strong potential to make a significant and timely contribution to educators."



idoodlestuff

Hands-on, minds-on activities and manipulatives to maximize creativity for teachers and students.

Used by students to explore new ways of thinking and to develop their own methods of discovery, manipulatives provide students of all ages hands-on opportunities to learn through play.

These tools help students to make the leap from intuitive to logical thinking, to move from concrete to abstract ideas, provide visible models to help students solve problems and deepen conceptual learning, and to increase understanding.

By blurring the lines between play and learning, students are free to create or design possible solutions, invent their own inquiry processes thereby individualizing their learning experience.

From shape and space manipulation to pattern recognition and puzzle-solving, students will draw upon perceptual and sensory evidence to develop their own conclusions and guide their own learning in active, fun, and exciting ways.

Examples

✓ Generator

qbulz

stuckies

idoodle markers

"These tools are amazing and by injecting randomness into the planning process, will make the students think more creatively. Thank you"

P21 FRAMEWORK FOR 21ST CENTURY LEARNING

In comparing constructivist learning practices and environments to frameworks that promote acquisition of 21st century skills, there are common themes or threads that bind them together; learning how to learn, knowledge construction, creativity, collaboration, and learning through real-world experiences. Educators must create and foster a constructivist learning environment where students can gain those authentic, real-world experiences that make learning relevant and purposeful.

			LEARNING AND INNOVATION SKILLS										INFORMA	TION, MEI
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krucible				•	•	•	•				•	•		
Sentence Connections	•			•		•		•	•					
In My Own Design	•		•	•	•	•	•	•			•	•	•	•

o = indicates a possible outcome

"Technology without great content is empty. Innovative educational programs, like those offered by idoodlesoftware, together with technology engages students in a whole new way and helps educators deliver the very best learning experience they can."

^{• =} indicates outcome

^{* -} ICT: (INFORMATION, COMMU

To ensure that idoodlelearning's products are aiding students and educators in acquiring 21st century and higher order thinking skills, we align to Bloom's Revised Taxonomy for cognitive processes and to the P21 Framework for 21st Century Learning. (www.P21.org)

DIA, AND TECHNOLOGY SKILLS]	LIFE AND CAREER SKILLS											
	MEDIA LITERACY Literacy			FLEXIBILIT ADAPTAB	ILITY	INITIATIVE & SELF-DIRECTION			CULTURAL SKILLS				LEADERSHIP & RESPONSIBILITY	
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NICATIONS, AND TECHNOLOGY)

"Education is a two way street where both the students and the educators grow and learn....idoodle understands that and builds programs and tools to not only engage the students minds in creative ways but bring the excitement back to the classroom for the teachers."

We Want To Hear From You



We believe communication is key to building and maintaining great products and successful relationships around the world.

Get in touch



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Innovation





Creativity and innovation come from curiosity and exploration

Giant can be defined as "large or huge in size" - that is not us, or as "greater or more eminent than others" and that is idoodlelearning!

We are giants in creating inspiring educational tools, programs and applications. Our products bring back into the classroom that sense of wonder and drive to explore, not only for students but for educators as well.

Exploration



Creativity





Great education
is a series of "a-ha
moments" that when
pieced together
create a lifelong
passion for learning.
We strive to bring
those moments
to educators and
learners alike.



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