

# Scaffolding Positive Creativity in Secondary School Students

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**Abstract:** Guided by research in creativity studies, moral development, and positive youth development, this paper proposes four principles to guide education toward positive creativity: (1) building prosocial motivation, (2) building emotion skills to build persistence, (3) building an understanding of creativity as dynamic, and (4) building self-concept of positive creativity. To illustrate applying these theoretically derived principles to teaching positive creativity, we provide examples from the inspirED program for secondary school students, which aims to build a more positive social and emotional climate through student-led creative projects. The four phases of the inspirED program—Assess the problems, Brainstorm ideas, Complete a project, and Debrief the project’s impact—are mapped onto the four principles of teaching for positive creativity.

**Keywords:** positive creativity; inspirED; prosocial motivation; emotion skills; creative self-concept

## 1. Introduction

The standard definition describes creativity as an outcome—idea, product, performance—that is both original and useful [1]. While the originality part of this definition is not disputed, the notion of usefulness (sometimes also labeled appropriateness) inspires more debate. Appropriateness suggests a judgment or evaluation, leading some to conclude that there is no malevolent or dark creativity [2], while other scholars have argued for considering the intention and end effect of creative work, both benevolent and malevolent [3,4]. In the latter case, appropriateness is judged in relation to the ability of the idea, product, or action to fulfill a stated goal. Something that is original and appropriate (effective in reaching a goal) may accomplish positive (prosocial), negative (harmful or malevolent), or relatively neutral ends. In this paper, we focus on positive creativity—generation of original ideas, products, or actions that aim to help others or improve conditions and lived experiences of groups or society at large. Moreover, we ask how emerging theoretical approaches can be applied in education.

When scholars refer to the functions of creativity, they explicitly talk about either unambiguously positive outcomes (social, political, and historic progress; job satisfaction; health and well-being) or presumed positive outcomes (business productivity; everyday problem solving [5]). Only with the rising interest in dark creativity in the last decade have researchers actively started to consider the valence of creative thinking and action. Both positive and negative creativity become defined in terms of the valence of their outcomes and/or motivation or intent [6]. Thus, positive creativity includes original and appropriate/useful outcomes that are beneficial or helpful to others or society at large and that are created with intent to help or benefit someone or something other than oneself.

In addition to the definition, it is crucial to consider ways of measuring creativity and the kinds of conclusions different measures enable. Reiter-Palmon [7] discussed difficulties in assessing dark creativity; real life behavior that is both harmful and original is rare. It remains unclear whether generating negative or harmful ideas on laboratory tests such as alternate uses (e.g., using a brick to break a window or throw it at someone) translates into greater dark creative behavior. It is also unclear what the processes of evaluation and



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moral consideration are that might prevent people from acting on potentially harmful ideas, leaving them in the domain of imagination or fantasy.

In this paper, we operationally define positive creativity in terms of products—actions and artifacts—that result from a process motivated by helping others and solving collective problems. Positive creativity is an end outcome of problem finding concerned with benefiting others, generating ideas in a broad search for potential solutions, evaluating ideas for their originality, quality, and likelihood of positively impacting others, and implementing ideas to serve or help others.

The importance of creativity as an educational outcome is becoming apparent from economic analyses and surveys of organizational leaders that stress it as crucial in the context of the changing nature of work [8,9]. These analyses also point to the importance of social and emotional skills, such as emotional intelligence, resilience, and stress tolerance. Two decades of research show the benefits of social and emotional learning, both for individual skills and well-being outcomes and a more positive and prosocial classroom and school climate [10,11]. Teaching for positive creativity builds creativity skills along with social and emotional learning, and places them in the context of positive youth development that includes building confidence, competence, character, connection, caring, and contribution to society [12–14].

This paper presents a theoretically derived perspective on scaffolding positive creativity in secondary school students. We describe a set of principles about building positive creativity based on the science of creativity, as well as research on youth development and prosocial behavior. This paper is not meant to be an exhaustive list of principles potentially useful in educational programs. Rather, our goal was to develop a small set of principles that could be flexibly applied to different programs (e.g., aimed to develop creativity in different domains). The application of these principles in educational practice is illustrated with the example of inspirED, a program aimed at amplifying student voices and creating positive change in schools. Although we illustrate the theoretically derived principles using the example of inspirED, we argue that these principles can be applied to other programs aimed at teaching positive creativity (e.g., programs aimed at STEM disciplines, social justice action, social entrepreneurship). The inspirED example serves the purpose of explaining the teaching principles only; presenting data on program evaluation is beyond the purpose of this piece.

## 2. The inspirED Program

inspirED is a free, student-led approach to social and emotional learning and creativity in secondary schools. Through inspirED, a team of students is trained in a four-phase process (acronym ABCD): assess school climate, brainstorm project ideas that would improve the school climate, commit to and complete a selected project, and debrief the project's impact. The four ABCD phases align with models of the creative process which include stages dedicated to problem finding, idea generation, idea evaluation and execution, and validation. Validation [15,16] involves appreciating one's own work and reflecting on the experience as the beginning of launching the next creative project. Botella and colleagues [17] refer to this as a series in which, if the initial product is met with acceptance, it may be extended to future works.

Furthermore, inspirED is grounded in the theory of emotional intelligence [18]. At each phase of the inspirED process, emotional intelligence skills are taught alongside creativity skills (see [19], for a full description of the training program). For example, when assessing their school's climate, student teams are asked to tap into feelings of frustration, disappointment, or anger so as to identify those facets about their school which could be better; in other words, they are guided to apply the skill of using emotions to facilitate thinking and problem solving. As students work to complete their projects, they engage additional social-emotional skills of self-regulation, communication, teamwork, and advocacy.

The remainder of this paper is organized in four sections, each presenting a principle of building positive creativity based on theories of creativity: (1) building prosocial motivation, (2) developing and applying emotion skills to build persistence, (3) building an understanding of creativity as dynamic, and (4) building self-concept of positive creativity. In each section, the principle is described, linked to relevant theory, and illustrated by how this creativity scholarship was put into practice in the inspirED program for secondary school students. In Table 1, we have mapped the phases of inspirED to each principle. Of note, each principle maps to more than one phase in order to create multiple applications. Moreover, the process can be thought of as circular, so that upon completing one act of prosocial creativity, students are encouraged to begin again with a new problem and new set of ideas. Such a model takes into account that the development of positive creativity skills is most likely when structured as a series of scaffolded experiences.

**Table 1.** The Intersection of the inspirED process with the four principles of positive creativity.

Principle	inspirED Phases	Example(s)
Principle 1: Building prosocial motivation	A: Assess your school climate. Students collect (or are provided with) student survey data indicating the state of their school's climate on dimensions such as safety, relationships, and teaching quality. Students are guided to discuss the meaning of this information, asking questions such as "What is surprising?" "What are our school's strengths?" "What is the most concerning?"	Students identify issues at school that are negatively affecting their peers (e.g., anti-Semitism, isolation, lack of support) and are motivated to alleviate the harm
	B: Brainstorm project ideas. Students begin to generate a list of possible solutions to an identified school climate challenge. They ask "What can we do to improve our school's climate?" "How can we help our peers feel safe and connected at school?" "Which project would do the most good?"	
Principle 2: Building emotion skills to build persistence	B. Brainstorm project ideas. Students generate project ideas within their power, competence, and interest areas, which feeds their intrinsic motivation to persist on a long-term project. Students consider "What project excites me?" "What can we do to change the sources of frustration?"	Students persist through long-term projects (e.g., creating 1500+ handmade, personalized valentines for entire student body) and use strategies such as accumulating small wins early (e.g., identifying an online route to immediately begin a peer support group during COVID-19)
	C. Complete the project. Students are guided through completion of their project and encouraged to develop strategies that will help them persist in the face of difficulties or obstacles. Through training materials and coaching, they continually return to reflections such as "What's our why?" and "What small successes can we celebrate so far?"	
Principle 3: Building an understanding of creativity as dynamic	C. Complete the project. As students work to develop and build their ideas into finished products, they adjust to obstacles and adapt their approach where needed. This can involve narrowing or expanding a project idea, bringing in new team members with particular expertise, or realizing steps that were previously unanticipated. Students are asked, "Whose voices are missing; who can we invite in?" and "What needs to happen first, second, third."	Students need to adjust to obstacles as they come up (e.g., altering planned in-person scavenger hunt to be more inclusive of virtual peers) and identify the impact they did have even if they didn't solve every problem (knowing that the mural they created built feelings of be-longingness at school even if bullying is not completely eliminated)

Table 1. Cont.

Principle	inspirED Phases	Example(s)
Principle 4: Building self-concept of positive creativity	D. Debrief your impact. Students consider the impact their project had on the school community and themselves. Students engage in reflections including, “What counts as a win?” in which they discuss “We may not have solved the whole problem, but did we move the needle?” or “What have we learned that will help us next time?”	
	D. Debrief your impact. As students debrief their project, they are also asked to reflect on their work to help them realize and appreciate their growth and skills and apply them to other life domains. Reflection questions include, “How would I describe my contribution on a resume?” “What can I take from this experience and use in my everyday life?”	Students reflect on their growth personally and begin to identify themselves as prosocial and creative leaders who can have a positive impact: “This taught me that I can actually change things if I want to see things changed. This group was so much more powerful than I ever thought possible and we really were able to have an impact.” (inspirED student Savannah)
	A. Assess your school climate. Students are also presented with (or gather) a second round of survey data including re-administration of climate measures, as well as specific data on whether the project helped students and whether more students want to get involved in the future. This helps students to consider, “How do I know that I am a prosocial person/leader/creative problem solver?”	

### 3. Principle 1: Building Prosocial Motivation

The starting point in teaching positive creativity is scaffolding motivation that benefits others. Much research on motivation for creativity has focused on the locus of motivation—whether motivation is intrinsic or extrinsic [20]. Forgeard and Mecklenburg [21], in their two-dimensional model of creative motivation, also considered the intended beneficiaries of creative work, distinguishing self-oriented and other-oriented motivation. Recently, scholars studying motivation for creative work started focusing on more specific goal content [22,23] and identified prosocial motives as a prominent reason for engaging in creativity. Furthermore, Forgeard [23] distinguished three sets of prosocial motives through semi-structured interviews with professional artists and scientists: creating a connection among others (e.g., helping people feel seen or validated), helping others to see new perspectives (e.g., sharing diverse experiences), and creating tangible changes in others’ lives (e.g., contributing to equity and social justice).

Prosocial motivations can help creative thinking and problem solving through perspective taking, as well as be a factor in self-regulation of creative activity that contributes to persistence. Yang and Yang [24] induced undergraduate students to feel sympathy by showing them a slideshow of distressed elderly adults and then asked them to complete divergent thinking tasks and design a floor plan for an office reception area friendly to the elderly. Those who were induced to feel sympathy were more original on creative thinking tasks compared to the control group participants. The effect of sympathy was fully mediated by task persistence. The prosocial emotion of sympathy (reaction to others’ distress) inspired motivation to help others and sustained effort. This effect of prosocial motivation on persistence is also supported by research in the workplace where prosocial motivation helps persistence in the face of challenges (e.g., being discouraged by a supervisor [25]). Grant and Berry [26] showed both correlational and experimental evidence that prosocial motivation predicts creativity, both measured at work by supervisor ratings and in a problem-solving task. Prosocial motivation led to more creative idea generation through its effect on considering others’ perspectives.

inspirED is designed to support teams of adolescents in addressing and improving their school climate, a task which is inherently prosocial (contributing to a safe, supportive climate for their peers). One way inspirED motivates prosocial motivation is through real-life data. At the start of their work, inspirED teams examine data about their school climate. Teams can use data that has already been collected by their school for other purposes and which is shared with students in aggregate form. Alternatively, students have the option to use the School Climate Walkthrough, an assessment in the inspirED toolkit that measures nine domains of climate—physical safety, emotional safety, social safety, peer relationships, adult relationships, adult–student relationships, teaching quality, respect for diversity, and school pride—and analyzes results for demographic discrepancies in school experience [27,28]. If whole-school measures are unfeasible or unavailable, inspirED also offers resources for simpler surveys, as well as a series of discussion questions that the team can use to consider the state of their school’s climate.

Often, teams are faced with data that their peers are struggling in one or more areas of school climate, or that there are disturbing discrepancies between how students of different social groups feel at school (e.g., male and female students report they have a teacher they can go to, while non-binary students do not; students of one race feel rules are enforced fairly, while students of another race do not). inspirED encourages students not to avoid uncomfortable or unpleasant emotions, but rather to fully engage with their worry about peers’ safety, surprise at unexpected responses, curiosity about demographic differences in data, or dissatisfaction with the school environment.

After surveying their school climate in 2021, one inspirED team noticed that their peers were feeling exhausted by distance learning due to COVID-19 protocols at their school, particularly from the large amounts of screen time. In order to give their peers a voice in the project, the team launched a follow-up survey asking for ideas about how to incorporate more hands-on learning into the curriculum. The team then fundraised and was able to provide each teacher with a budget to buy materials and supplies for students to use during the hands-on learning day, giving students a much-needed break from screen learning.

#### **4. Principle 2: Building Emotion Skills to Build Persistence**

The role of emotions in creative thinking has been studied for a long time. Until recently, this research was largely based on experimental mood inductions followed by brief idea generation tasks. A major meta-analysis of such studies showed that positive energized moods (e.g., being happy or amused) were beneficial for performance on creative thinking tests [29]. However, mood manipulations are short-lasting and do not offer a viable vehicle for enhancing creative thinking in real-world contexts. Furthermore, these laboratory studies removed the immediacy of emotion experienced in everyday settings and removed meaning from creativity tasks, diminishing their ecological validity. Indeed, when creators across domains describe emotions inherent in their work, a broad range of affective states emerges as describing both early inspiration and daily creation stages—from nostalgia, pain, and love to frustration, joy, and excitement [30,31]. The question of what emotions are most beneficial to creativity—from inspiration and idea generation to completing products—might not be the most helpful. Rather, we might better ask how emotions can be used and managed in the service of creativity goals [32].

Emotion abilities, such as those under the umbrella of emotional intelligence [18,33], are based on two fundamental premises; the first premise is that emotions are adaptive and that both pleasant and unpleasant emotions convey information about the world and one’s relation to it [34,35], and the second premise is that people have agency in relation to their emotions—they can utilize emotions to inform or guide their actions and they can influence the course of their emotions. Two emotional intelligence abilities are theoretically most relevant to creativity—using emotions to facilitate thinking and regulating emotions.

The ability to use emotions includes understanding and capitalizing on the knowledge of information conveyed by emotions, understanding connections between emotions and

cognition, and matching tasks to moods that benefit performance on those tasks. For instance, frustration conveys information that there is a problem or an obstacle to achieving a goal. This knowledge can be used in the process of problem finding—something that is frustrating can be creatively improved, and frustration points to those features that could be changed. Another way using emotions can help creative thinking is evident in purposeful matching of moods to tasks. Cohen and Andrade [36] told participants they would be working either on a task requiring precise analytic thinking or coming up with new and original ideas. Then, participants were given a choice to influence their mood by listening to happy or sad music. People were more likely to listen to happy music (making themselves happier) in preparation for a brainstorming task and sad music (making themselves sadder) in preparation for an analytic task. In other words, people considered how useful different moods are for a task at hand—sad moods facilitate performance on analytic tasks and happy moods facilitate brainstorming ideas—and matched their mood to the task. Importantly, not everyone matched their moods to the tasks they expected, pointing to the importance of individual differences in emotion abilities.

Because the creative process almost by definition involves frustrating obstacles and unanticipated challenges, emotion regulation is important for its success. Ivcevic and Brackett [37] examined the role of emotion regulation ability in predicting creativity in high school students. Emotion regulation ability was measured by a performance test that assesses capacity to evaluate effectiveness of different actions in producing a desired goal (e.g., doing well on an upcoming test), while creativity was measured through peer nominations. There was an interaction between emotion regulation ability and openness to experience (personality disposition for creativity); emotion regulation ability predicted creativity in those with medium or high levels of openness, but not in those low in openness. Emotion regulation ability predicted creativity through its effect on teacher rated persistence and passion.

This research points to the role of emotion abilities in transforming creative potential into observable behavior by supporting motivation for sustained activity. Thus, in teaching positive creativity, it is important to build students' emotion skills. At the beginning of the inspirED process, teams tap into their emotions as information as they are assessing school climate, and begin to brainstorm project ideas. Emotions such as frustration with tedious classes, or anger and outrage at injustices, support students in problem finding, and can be motivating in guiding their action.

In the Brainstorm and Complete phases, where students generate project ideas and bring them to life, emotion regulation skill is crucial for persistence. As described in the previous section on prosocial motivation, the desire to help their peers first sparked by the Assess phase, is continued into the Brainstorm phase as students think of projects that excite them and those that are likely to do the most good for the community. Effective brainstorming in teams requires creating a sense of psychological safety, which is based on members paying attention to others' feelings, understanding them, and taking them into account in their interactions [38]. inspirED scaffolds safe and generative brainstorming using an activity in which team members add to each other ideas using the stem "What if we . . . ". inspirED resources also include prompts for the kinds of suggestions students might add (e.g., make the project bigger/smaller, include social media, focus specifically on one group, bring in another voice/expert, start with an open letter, etc.). Such an activity leads teams to select a project about which the students are passionate and see as a creative challenge they chose for themselves, all features that make persistence more likely than had the project been conceptualized by the educators and assigned as an academic assignment [39].

The Complete phase of inspirED—where positive creative potential gets converted into positive creative behavior (and achievement)—is typically the longest. Supporting students in sustaining motivation is done in several ways. One is through an exercise titled "What's my why?" in which students describe why they joined the inspirED team and who they are hoping to help. As students write out their answers, they are declaring

their intentions to behave in creatively prosocial ways, and as described in the theory of planned behavior [40], intentions are a significant predictor of actual behavior. Furthermore, prosocial intentions are a combination of attitudes toward the behavior, subjective norms, and perceived behavioral control, and changes in intentions can in fact lead to changes in behavior [41].

One inspirED team set a year-long goal to provide each sports team at their school with a special surprise at least once (e.g., have a poster hung up specific to each soccer player). Persistence was helped by creating unique surprises for each team (rather than giving every team the same surprise) to keep the project more interesting. Part way through the project, the inspirED team received feedback that many students were not on a sports team and therefore would be excluded from receiving a surprise. To remedy this, the inspirED team decided to include all clubs and other school groups (e.g., the drama/theater group, the diversity club, the chess club). This made their project more challenging, but the personal and social benefits of generating special ideas to show appreciation of others, generated motivation to continue. When teams can successfully attend to their original motivation—making students at the school feel seen and valued—they are better able to weather setbacks.

### 5. Principle 3: Building an Understanding of Creativity as Dynamic

Creativity is a dynamic and often long process. Although idea generation and creative cognition are most often studied, ideas need to be transformed into actions, performances, or products to reach their audiences and intended beneficiaries. This process requires self-regulation. Creative goals are ill-structured and actions necessary to attain them often have to be revised and reevaluated. Self-regulation for creativity involves two sets of processes [42]: (1) (re)strategizing how to move from creative ideas to completed products (whether they are new artifacts or performances), and (2) sustaining effort in the face of obstacles, constraints, or discouragement.

Re-strategizing processes are evident in descriptions of the creative process by professionals across domains of work [17,30], as well as observational research of the creative process [43]. Creative work involves taking some intellectual and social risks (What do I need to learn? What will people think about this? [44–46]) and balancing ambitious goals or visions with constraints of what is possible. Processes of sustaining effort involve managing emotions (so that frustration and discouragement do not result in abandoning the work) and flexible planning of actions between having an idea and realizing it.

The dynamic nature of the creative process extends to its valence. A product that is envisioned as positive—benefiting others and addressing important social needs—can at a later time become negative. For instance, it could be argued that social media were envisioned with positive intent to connect people and facilitate their interaction. But this valence is not static; as harmful unintended consequences came to light, the social media organizations neglected to address them, turning positive creativity into dark creativity.

Two inspirED projects illustrate students learning about the dynamic nature of creativity. One inspirED team wanted to create opportunities for their peers to better manage their schoolwork and handle their emotions, so they started a weekly peer support group. The educator mentors scaffolded the process by suggesting they begin with a short list of topics, and those they had the most confidence in leading. “Early wins” gave the team confidence and momentum. Moreover, because the students had the basic infrastructure in place for their support group, they were set up to expand to more topics in the future, such as supporting new students in adjusting to their new school.

At another school, the inspirED team identified a need to increase cultural awareness and celebrate diversity. The original plan was to organize a cultural event during each heritage month (e.g., Black History Month, Women’s History, LGBT Pride Month, etc.). As they realized that this would not be feasible with the available time and resources, they pivoted to a more achievable project in the short term: creating posters to celebrate different

cultural heritages and displaying them around the school. This team was able to stay true to the motives in their initial idea but was also able to adjust when necessary.

In both examples, the creative ideas changed over time. As teams considered resources and feasibility, projects were reduced in size to that which could be efficacious and successful in the short term. Additionally, in both cases, going too big too quickly could have resulted not simply in a failed project, but a potentially harmful one: a hastily pulled together heritage event risks being culturally insensitive. Getting feedback on smaller projects can build creative confidence and provide a basis for more complex goals in the future. By beginning with posters, and giving themselves more time to plan heritage month events for the following year, the inspirED team can learn about their audience, and ensure they achieve goals of positive creativity.

#### **6. Principle 4: Building Self-Concept of Positive Creativity**

To build a self-concept of positive creativity, we draw on theories of the creative self and theories of prosocial behavior. Creative self-efficacy—the belief in one’s ability to successfully complete tasks that call for creativity—motivates creative behavior. High creative self-efficacy predicts creativity outcomes in both children (e.g., teacher-rated creativity of elementary school students [47]) and adults at work (e.g., rated by supervisors [48]). Social-psychological research shows that self-efficacy beliefs both motivate initial goal setting (deciding to engage in an activity and set one’s performance aspirations) and support the process of recommitting to one’s goals throughout goal pursuit [49]. Relevant to teaching creativity, increases in creative self-efficacy over time correspond to increases in creative performance [48].

Karwowski and Beghetto [50] integrated the research on creative self-efficacy and values of creativity and proposed a model of creative behavior as agentic action. According to the model, creative potential is transformed into creative action by considering one’s self-efficacy beliefs and judging the value of creativity. In a series of both cross-sectional and longitudinal studies, they showed that creative potential predicts creative self-efficacy, which in turn predicts creative behavior. Creative potential leads to creative behavior only once creativity is evaluated as valuable or desirable.

Similarly, prosocial behavior develops based on previous behavior; the concept of moral identity—the degree to which being a moral person is integral to one’s identity—bridges the gap between moral reasoning ability and moral action [51]. One prominent theory of moral identity development describes the merging of morality and self throughout development. Early precursors of a moral identity include when children comply with parental demands and see themselves as “good”, or experience emotions associated with morality (i.e., guilt, shame) [52]. From childhood to adolescence, people become more principled, and recognize greater agency, and therefore responsibility, for their behavior [53].

The integration of morality and identity can be fostered by opportunities for moral action [54]. Applying self-consistency theory [55] to positive creativity, it can be theorized that those who think of themselves as prosocial problem solvers are more likely to engage in creative prosocial acts (it is satisfying to engage in behaviors that are consistent with one’s self-image), and those acts in turn reaffirm that the person is truly a prosocial and creative problem solver. Yet, this potential upward spiral of maintaining an identity through continuing to behave in identity-aligned ways must begin somewhere. One model, common to schools, is to encourage students to engage in service projects or community service, which can be the foundational experience serving as initial evidence that one is kind, caring, altruistic, and willing to take action.

For inspirED, the Debrief phase, and next cycle of assessing school climate for what is next, is not only about measuring the impact of the project on the community, but also a time to reflect on personal and team growth. Students use inspirED resources to reflect on their work process (not only the outcome), revisit their initial intentions and goals, notice how they have grown through being a team member, celebrate each other, and offer feedback. During the course of these discussions, inspirED teams often begin to realize

shifts in how they think about themselves. In the process of reflection, students gather evidence that they are capable, creative, moral, and influential individuals. One inspirED team member reflected, “If you’re not the most popular students in the school, you can still make an impact and be influential leaders.”

## 7. Future Directions and Conclusions

Positive creativity is key to addressing social issues on both a small (such as a school) and large scale (contributing to solving major social issues, such as income inequality and climate change). This paper provides a perspective on principles that can guide development of programs that aim to develop skills and attitudes of positive creativity. The guiding principles for building positive creativity start with consideration of motivation, build on research of the emotion skills involved in maintenance of effort and persistence, and foster the development of self-efficacy and identity as a prosocial problem solver. Throughout, we acknowledge the dynamic nature of creativity as an ill-defined process that requires flexibility and adjustments.

We illustrate these principles with examples from an educational program that embodies them in teaching positive creativity to secondary school students by supporting student-led teams in developing projects aimed at improving social and emotional climate at their school. Although we use the example of the inspirED program, we believe that these principles can be applied to other programs aimed at building positive creativity. For instance, students developing projects for a science fair could be guided toward considering problems that can benefit others (e.g., educating about climate change, developing digital applications or engineer devices that assist people with disabilities).

Future research will have to put the principles described in this paper and the specific methods to put them into practice to test. This process will include both testing effectiveness of particular programs adopting and applying these principles and also the mechanisms of change embedded in the principles (e.g., prosocial motivation, creative self-efficacy). In case of inspirED, testing program effectiveness will involve qualitative examination of the student projects and their effects on both those students who take part in developing and executing the projects and those who are their beneficiaries. Research specific to the principles guiding the program will have to address development of self-concept of positive creativity for students who participate in inspirED and their motivations and intentions for future positive creativity.

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## References

1. Plucker, J.A.; Beghetto, R.A.; Dow, G.T. Why isn’t creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educ. Psychol.* **2004**, *39*, 83–96. [\[CrossRef\]](#)
2. Runco, M.A. Creativity has no dark side. In *The Dark Side of Creativity*; Cropley, D.H., Cropley, A.J., Kaufman, J.C., Runco, M.A., Eds.; Cambridge University Press: Cambridge, UK, 2010; pp. 15–32.
3. Cropley, D.H.; Kaufman, J.C.; Cropley, A.J. Malevolent creativity: A functional model of creativity in terrorism and crime. *Creat. Res. J.* **2008**, *20*, 105–115. [\[CrossRef\]](#)

4. James, K.; Clark, K.; Cropanzano, R. Positive and negative creativity in groups, institutions, and organizations: A model and theoretical extension. *Creat. Res. J.* **1999**, *12*, 211–226. [[CrossRef](#)]
5. Forgeard, M.J.C.; Kaufman, J.C. Who cares about imagination, creativity, and innovation, and why? A review. *Psychol. Aesthet. Creat. Arts* **2016**, *10*, 250–269. [[CrossRef](#)]
6. Kapoor, H.; Kaufman, J.C. Unbound: The relationship among creativity, moral foundations, and dark personality. *J. Creat. Behav.* **2021**, *0*, 1–12. [[CrossRef](#)]
7. Reiter-Palmon, R. Are the outcomes of creativity always positive? *Creat. Theor. Res. Appl.* **2018**, *5*, 177–181. [[CrossRef](#)]
8. World Economic Forum. *The Future of Jobs Report 2018*. 2018. Available online: <https://www.weforum.org/reports/the-future-of-jobs-report-2018> (accessed on 1 March 2022).
9. World Economic Forum. *The Future of Jobs Report 2020*. 2020. Available online: <https://www.weforum.org/reports/the-future-of-jobs-report-2020> (accessed on 1 March 2022).
10. Durlak, J.A.; Weissberg, R.P.; Dymnicki, A.B.; Taylor, R.D.; Schellinger, K.B. The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Dev.* **2011**, *82*, 405–432. [[CrossRef](#)] [[PubMed](#)]
11. Taylor, R.D.; Oberle, E.; Durlak, J.A.; Weissberg, R.P. Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Dev.* **2017**, *88*, 1156–1171. [[CrossRef](#)] [[PubMed](#)]
12. Larson, R.W. Toward a psychology of positive youth development. *Am. Psychol.* **2000**, *55*, 170–183. [[CrossRef](#)]
13. Larson, R.W.; Orson, C.; Bowers, J.R. Positive youth development: How intrinsic motivation amplifies adolescents' social-emotional learning. In *Scientific Advances in Positive Psychology*; Warren, M.A., Donaldson, S.I., Eds.; Praeger/ABC-CLIO: Westport, CT, USA, 2017; pp. 165–194.
14. Lerner, R.M.; Lerner, J.V.; Lewin-Bizan, S.; Bowers, E.P.; Boyd, M.; Mueller, M.; Schmid, K.L.; Napolitano, C.M. Positive youth development: Processes, programs, and problematics. *J. Youth Dev.* **2011**, *6*, 40–64. [[CrossRef](#)]
15. Shaw, M.P. The eureka process: A structure for the creative experience in science and engineering. *Creat. Res. J.* **1989**, *2*, 286–298. [[CrossRef](#)]
16. Shaw, M.P. Affective components of scientific creativity. In *Creativity and Affect*; Shaw, M.P., Runco, M.A., Eds.; Ablex Publishing: Norwood, NJ, USA, 1994; pp. 3–43.
17. Botella, M.; Glaveanu, V.; Zenasni, F.; Storme, M.; Myszkowski, N.; Wolff, M.; Lubart, T. How artists create: Creative process and multivariate factors. *Learn. Individ. Differ.* **2013**, *26*, 161–170. [[CrossRef](#)]
18. Mayer, J.D.; Salovey, P. What is emotional intelligence. In *Emotional Development and Emotional Intelligence: Implications for Educators*; Salovey, P., Sluyter, D., Eds.; Basic Books: New York, NY, USA, 1997; pp. 3–31.
19. Hoffmann, J.D.; McGarry, J.A.; Seibyl, J.; Baumsteiger, R.; Brackett, M.A. Emotional empowerment in high school life. In *Emotions in Cultural Content*; in press; Misra, G., Misra, I., Eds.; Springer: New York, NY, USA, 2022; in press.
20. Amabile, T.M. *Creativity in Context*; Westview Press: Boulder, CO, USA, 1996.
21. Forgeard, M.J.; Mecklenburg, A.C. The two dimensions of motivation and a reciprocal model of the creative process. *Rev. Gen. Psychol.* **2013**, *17*, 255–266. [[CrossRef](#)]
22. Benedek, M.; Bruckdorfer, R.; Jauk, E. Motives for creativity: Exploring the what and why of everyday creativity. *J. Creat. Behav.* **2020**, *54*, 610–625. [[CrossRef](#)]
23. Forgeard, M. Prosocial motivation and creativity in the arts and sciences: Qualitative and quantitative evidence. *Psychol. Aesthet. Creat. Arts* **2021**, in press.
24. Yang, H.; Yang, S. Sympathy fuels creativity: The beneficial effects of sympathy on originality. *Think. Ski. Creat.* **2016**, *21*, 132–143. [[CrossRef](#)]
25. Shukla, J.; Kark, R. Now you do it, now you don't: The mixed blessing of creative deviance as a prosocial behavior. *Front. Psychol.* **2020**, *11*, 313. [[CrossRef](#)]
26. Grant, A.M.; Berry, J. The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective-taking, and creativity. *Acad. Manag. J.* **2011**, *54*, 73–96. [[CrossRef](#)]
27. Hoffmann, J.D.; Baumsteiger, R.; Seibyl, J. The School Climate Walkthrough: A tool for understanding school climate in secondary schools. In Proceedings of the American Psychological Association Annual Convention, Virtual, 12 August 2021.
28. Hoffmann, J.D.; Baumsteiger, R.; Seibyl, J.; Hills, E.; Bradley, C.; Cipriano, C.; Brackett, M.A. Building useful, web-based educational assessment tools for students, with students: An illustrative demonstration with the School Climate Walkthrough. *Assess. Educ. Princ. Policy Pract.* **2022**, in press.
29. Baas, M.; De Dreu, C.K.W.; Nijstad, B.A. A meta-analysis of 25 years of mood-creativity research: Hedonic tone, activation, or regulatory focus? *Psychol. Bull.* **2008**, *134*, 779–806. [[CrossRef](#)]
30. Glăveanu, V.P.; Lubart, T.; Bonnardel, N.; Botella, M.; de Biais, P.-M.; Desainte-Catherine, M.; Georgsdottir, A.; Guillou, K.; Kurtag, G.; Mouchiroud, C.; et al. Creativity as action: Findings from five creative domains. *Front. Psychol.* **2013**, *4*, 176. [[CrossRef](#)] [[PubMed](#)]
31. Ivcevic, Z. Emotions ignite and fuel creativity. In *Creativity, Emotions, and the Arts, Again and Again*; Ivcevic, Z., Botin, F., Eds.; Fundacion Marcelino Botin: Santander, Spain, 2022; in press.
32. Ivcevic, Z.; Hoffmann, J.D. Emotions and creativity: From process to person and product. In *Cambridge Handbook of Creativity*; Kaufman, J.C., Sternberg, R.S., Eds.; Cambridge University Press: Cambridge, UK, 2019; pp. 273–295.

33. Mayer, J.D.; Caruso, D.R.; Salovey, P. The ability model of emotional intelligence: Principles and updates. *Emot. Rev.* **2016**, *8*, 290–300. [[CrossRef](#)]
34. Martin, L.L.; Ward, D.W.; Achee, J.W.; Wyer, R.S. Mood as input: People have to interpret the motivational implications of their moods. *J. Personal. Soc. Psychol.* **1993**, *64*, 317–326. [[CrossRef](#)]
35. Schwarz, N. *Feelings as Information: Informational and Motivational Functions of Affective States*; The Guilford Press: New York, NY, USA, 1990.
36. Cohen, J.B.; Andrade, E.B. Affective intuition and task-contingent affect regulation. *J. Consum. Res.* **2004**, *31*, 358–367. [[CrossRef](#)]
37. Ivcevic, Z.; Brackett, M.A. Predicting creativity: Interactive effects of openness to experience and emotion regulation ability. *Psychol. Aesthet. Creat. Arts* **2015**, *9*, 480–487. [[CrossRef](#)]
38. Reiter-Palmon, R.; Millier, M. Psychological safety and creativity: The glue that binds a creative team. In *Cambridge Handbook of Creativity and Emotions*; Ivcevic, Z., Hoffmann, J., Kaufman, J., Eds.; Cambridge University Press: Cambridge, UK, 2022; In press.
39. Hoffmann, J.D.; Ivcevic, Z.; Zamora, G.; Bazhydai, M.; Brackett, M.A. Intended persistence: Comparing academic and creative challenges in high school. *Soc. Psychol. Educ.* **2016**, *19*, 793–814. [[CrossRef](#)]
40. Ajzen, I. The theory of planned behavior. *Organ. Behav. Hum. Decis. Processes* **1991**, *50*, 179–211. [[CrossRef](#)]
41. Webb, T.; Sheeran, P. Does changing behavioral intentions engender behavior change? A meta-analysis of experimental evidence. *Psychol. Bull.* **2006**, *132*, 249–268. [[CrossRef](#)]
42. Ivcevic, Z.; Nusbaum, E.C. From having an idea to doing something with it: Self-regulation for creativity. In *The Creative Self*; Karwowski, M., Kaufman, J.C., Eds.; Academic Press: Cambridge, MA, USA, 2017; pp. 343–365.
43. Csikszentmihalyi, M.; Getzels, J.W. Discovery-oriented behavior and the originality of creative products: A study with artists. *J. Personal. Soc. Psychol.* **1971**, *19*, 47–52. [[CrossRef](#)]
44. Beghetto, R.A.; Karwowski, M.; Reiter-Palmon, R. Intellectual risk taking: A moderating link between creative confidence and creative behavior? *Psychol. Aesthet. Creat. Arts* **2020**. [[CrossRef](#)]
45. Ivcevic, Z.; Hoffmann, J.D. The creativity dare: Attitudes toward creativity and prediction of creative behavior in school. *J. Creat. Behav.* **2021**. [[CrossRef](#)]
46. Tyagi, V.; Hanoch, Y.; Hall, S.D.; Runco, M.; Denham, S.L. The risky side of creativity: Domain specific risk taking in creative individuals. *Front. Psychol.* **2017**, *8*, 145. [[CrossRef](#)]
47. Beghetto, R.A.; Kaufman, J.C.; Baxter, J. Answering the unexpected questions: Exploring the relationship between students' creative self-efficacy and teacher ratings of creativity. *Psychol. Aesthet. Creat. Arts* **2011**, *5*, 342–349. [[CrossRef](#)]
48. Tierney, P.; Farmer, S.M. Creative self-efficacy development and creative performance over time. *J. Appl. Psychol.* **2011**, *96*, 277–293. [[CrossRef](#)] [[PubMed](#)]
49. Bandura, A.; Locke, E.A. Negative self-efficacy and goal effects revisited. *J. Appl. Psychol.* **2003**, *88*, 87–99. [[CrossRef](#)] [[PubMed](#)]
50. Karwowski, M.; Beghetto, R.A. Creative behavior as agentic action. *Psychol. Aesthet. Creat. Arts* **2019**, *13*, 402–415. [[CrossRef](#)]
51. Hardy, S.A.; Carlo, G. Moral identity: What is it, how does it develop, and is it linked to moral action? *Child Dev. Perspect.* **2011**, *5*, 212–218. [[CrossRef](#)]
52. Kochanska, G. Committed compliance, moral self, and internalization: A meditational model. *Dev. Psychol.* **2002**, *38*, 339–351. [[CrossRef](#)] [[PubMed](#)]
53. Nunner-Winkler, G. Development of moral motivation from early childhood to early adulthood. *J. Moral Educ.* **2007**, *36*, 399–414. [[CrossRef](#)]
54. Hart, D. The development of moral identity. In *Nebraska Symposium on Motivation: Moral Development through the Lifespan: Theory, Research, and Application*; Carlo, G., Edwards, C.P., Eds.; University of Nebraska Press: Lincoln, NE, USA, 2005; Volume 51, pp. 165–196.
55. Korman, A.K. Toward a hypothesis of work behavior. *J. Appl. Psychol.* **1970**, *54*, 31–41. [[CrossRef](#)]