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White Paper on Creative Education

-Establishing a Republic of Creativity(R.O.C.) for Taiwan ..

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創造力教育白皮書

打造創造力國度

教育部

Ministry of Education

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Chapter 1: Preface

Background

To meet the challenge of knowledge-based economies, the enhancement of creativity is now more than ever becoming an increasingly important national goal in Taiwan,. In 1996 the Central Government of Taiwan proclaimed 教育改革總諮詢書, noting that diversity and innovation are the focus of modern education. The Ministry of Economics and the National Science Council then launched a series of research projects on creativity and innovation. In the years since, numerous competitions for encouraging creativity have been funded by both public and private sectors, and many governmental programs aimed at cultivating the nation's innovative power have been put into place (see, for example, Action plan for Building a Technologically Advanced Nation (科技化國家推動方案), Plan for Man Power Development In the New Century (新世紀人力發展方案), 知識經濟發展方案, and 第六次全國科技會議).

To fully unleash the creative potential of the people in Taiwan , it is essential to initiate a thorough analysis and examination of all relevant policies and strategies to determine which actions have fostered and will continue to promote the creative processes and which ones have been stifling innovation. The ultimate goal is threefold: first, to establish an educational policy that will encourage and support creativity; second, to develop and institute instructional strategies to implement creative education; and third, to widen the public's vision and appreciation for a "creative culture" by arousing their creative interests from an "ecological perspective."

Part 1: The Development of Creative Education In Taiwan—Past and Present

The concept of "creative education" in Taiwan first received attention in the 1960s and has since gone through many stages of development. In recent years, the concept of creative education has received increasingly significant attention in the private and public sectors and for both higher administrative organizations and in local school districts. Many existing laws and reform policies in education have advocated that the cultivation of creativity should be included and exemplified throughout the society's educational curriculum.

In 2002 the Ministry of Education specifically initiated a series of projects aimed at making Taiwan a "Republic of Creativity" (R.O.C.). One of the byproducts of these initiatives is this white paper on creative education, which we have put together to draw attention to efforts already taken and to serve as a roadmap for future actions.

Part 2: Creating a Vision of the "Republic of Creativity" (R.O.C.)

Fostering the public's creativity has been one of the important goals of Taiwan's educational reform, with the ultimate hope of creating in Taiwan a place where creativity is indispensable to everyone's life and in which the preservation of creative capital will be maintained through knowledge management. Such a goal is actually an extension of previous educational policies and is already integrated with many other current policies geared toward fostering a climate of creativity everywhere in Taiwan. In accordance

with the fundamental spirit of creativity, our efforts will be aimed at guiding the public to strive toward a “republic of creativity.” As we collaboratively strive to form a vision for such a republic of creativity, it is hoped that the framework of the vision will become the main thrust of our intellectual debate and discussion. The ideal R.O.C. is one in which creativity is encouraged and expressed at the **individual**, **school**, **societal**, **industrial**, and **cultural**.

At the **individual** level, the people involved include students but also teachers, administrators, parents, as well as the whole society. We want Taiwan to be a place where each and every member of society is encouraged to unlock the creative potential in him or her, to “think outside the box,” to take risks, to feel free to express his or her unique individuality. We believe that as people go about doing this, they will learn new things everyday and will experience the true joy of “lifelong learning.” If the individuals in society become “lifelong learners,” then the society, in turn, will also become a “lifelong learning society.”

At the **school** level, we want to create in our educational institutions an innovative learning environment as well as a lively teaching atmosphere. We believe that as schools expand their educational perspectives, they will also develop their own unique “personalities,” so to speak. We want our schools to construct a multicultural setting in which tolerance, imagination, and individual differences and cultural differences are all valued. It is our hope and belief that this kind of diversity will then breed further creativity.

At the **societal** level, abundant intellectual capital is the basis of a knowledge-based society. To accumulate this intellectual capital, we have to encourage people to be creative and to disseminate new ideas. To do that, we have to establish a healthy management system in which creative ideas are transformed into documents and innovative products. These products can then be easily accessible to the public in libraries, museums, and other such places. It is our hope that such measures would then stimulate further creativity.

At the **industrial** level, all forms of industry—regardless of traditional industry, high tech industry, or creative industry—have to effectively make use of intellectual property in order to increase the added value of their product. Therefore, in addition to “spreading” creative ideas and results for the general public to use, we also need to implement laws that protect intellectual property. In doing so, we will generate enough incentive to transform all forms of industry into “knowledge-based” industries. Creative education will be used to inform and encourage the public to respect intellectual property and to protect copyrights, in the hope that we can facilitate the development of an environment that is conducive to develop a knowledge-based industry.

At the **cultural** level, we are striving to develop an atmosphere that is enlightened by creativity and in which opportunities to be creative will be enhanced. If everyone in a society actively shares his or her own inspiration—regardless whether it is big or small—then the society will open up to diverse lifestyles. This, we believe, will lead to an enhanced quality of life in Taiwan and will eventually help shape a creative culture in which anyone at anytime and anyplace can be creative.

To summarize, by realizing and implementing the vision of the “republic of creativity,” we are striving to implement the following goals:

- To cultivate lifelong learning and to have the courage to create a lifelong learning attitude.
- To provide an educational environment in which individual differences are treasured and that contributes to a diverse and dynamic learning atmosphere.
- To accumulate rich knowledge resources and make them easily accessible to the public.
- To develop an industrial climate in which knowledge is created and disseminated while also respecting and protecting intellectual property.
- To shape a creative culture in which innovation is abundant and diverse and in which knowledge is actively exchanged. .

Part 3: Research Process of the White Paper

This creative education white paper was initiated by the Advisory office of the Ministry of Education (教育部顧問室), which invited eleven professors and 30 graduate students from across diverse academic disciplines to participate in a ten-month long research project. Six research teams were formed under the main project. For the project, creative education programs were observed and studied at the elementary, junior high, senior high, and university levels, both in Taiwan and abroad. Qualitative and quantitative research methods were employed, including content analysis, survey research, in-depth interviews, focus-group discussions, and Delphi techniques. More than 10,000 questionnaires were distributed, and 300 educators participated in focus-group discussions. Seminars were conducted in the southern, northern, and middle areas of Taiwan, and international data of creative education were gathered from the U.S. and Asian countries as well as from Europe, Australia, and New Zealand. Overall, the project conducted a thorough review of educational policies and creative environments worldwide. The members of each project team engaged in intellectual discussions with one another every week and met with other project teams once a month. Each team also prepared an individual report based on their respective assignments, covering all levels of education in Taiwan, as well as informal education and trends in creative educational models overseas.

This document is a collaborative work that incorporates each of the individual team reports. After its first draft, the Ministry of Education invited more than 100 educators, administrators, artists, and cultural elites to provide feedback. This document is a final revision that takes into consideration all the feedback that was generously provided.

Chapter 2: Current Development of Creative Education

Part 1: Analysis of International Development

To understand trends in creative education, the research teams collected data from 14 countries. What they found was that almost every country pays attention to creative education. In some countries creative education is promoted primarily by the central government, in others by the universities and private sectors. All in all, three strategies for promoting creative education deserve special attention in Taiwan:

1. To make knowledge in every domain easy to access and easy to acquire.
2. To establish a better review and selection system and to encourage diverse kinds of creative learning communities.
3. To emphasize both the intrinsic and extrinsic motivation for individuals to learn and to increase their ability to acquire skills and knowledge.

Part 2: Analysis of Taiwan

The research teams found that there are three main problems that continue to challenge the development of creative education in Taiwan:

1. Public Understanding of Creativity is Insufficient and Prejudiced

During the past ten years, as democracy in Taiwan has gradually matured and as the quantity and quality of international exchanges has increased, Taiwan's society has become more multicultural and open, which in turn has contributed to an increased level of tolerance and acceptance of diverse ideas and behavior. We believe that such pluralism is a basic and necessary requirement for creative development.

Unfortunately, despite these changes, we find that the public's *recognition* and *understanding* of creativity is still seriously lacking. In our studies, we identified a number of problems that are not conducive to a creative society. Some examples:

- Many assume that creativity is an inborn trait and that nurturing efforts are futile.
- Suspicious attitudes and hesitant actions are prevalent, due to a lack of adequate knowledge and confidence in creativity, thus discouraging creatively-inclined people from achieving their full self-actualization.
- Both parents' and teachers' high expectations for short-term academic performance does not encourage innovative learning through trial and error, which is critical to the creative learning process.
- Respect for intellectual property is lacking, discouraging wider social participation and investment in creative education.

2. Rules and Policies Need to Be Integrated and Strengthened

Although many existing educational policies place great emphasis on creativity, many of these policies have not been fully implemented or integrated into the society. The main problems could be summarized as follows:

- Although many government measures address or even emphasize issues related to creativity, there has been no concentrated effort to integrate these scattered policies.
- Resources for creative education are not allocated at higher educational administrative levels, and participation at lower educational practice levels is extremely limited in the policy-making process.
- Teacher training programs (both pre-service and in-service) often ignore the importance of cultivating creativity in the educational process.
- There is no systematic evaluation system for policies of creative education.

3. Resources for Promoting Creative Education is Grossly Inadequate

In recent years, some encouraging phenomena related to creative education have been observed in Taiwan. For example, we have seen a loosening of a rigid bureaucratic administrative system, we have seen increased participation of teachers in school management and curriculum design, and we have observed greater cooperation between communities and schools. Nevertheless, the resources for implementing educational innovation are still inadequate. Building a creative culture in various educational arenas is no easy task; we still have a long way to go. Some of the obstacles that continue to stand in the way are as follows:

- Most school cultures do not encourage and support innovation. Possible reasons could be due to a lack of long-term design and educational plan at the higher administrative level, too much emphasis on short-term performance, schools dominated by authoritarian leadership both in and outside of the campus, and a lack of mutual communication and understanding between upper level administrators and local teachers.
- Evaluation systems have placed too much emphasis on the outcome, rather than on the *process* of learning and teaching. Moreover, standard criteria and answers are still the norm in most tests and examinations. Such objective measurements of evaluation overly rely on external aspects, such as scores and rewards, and fail to arouse young people's internal motivations to learn simply for learning's sake. Moreover, resources to assist teachers in bringing creativity into the classroom are insufficient, nor do teachers have the time to develop a new curriculum or to be innovative due to a heavy teaching workload.

Chapter 3: Principles and Strategies for Implementing Creative Education

Part 1: Implementing Principles

In responding to the previously addressed problems challenging creative education in Taiwan, it is essential to develop a national strategy so that creative education can be more rigorously and effectively implemented. What follows are **ten principles** that should be included as part of a national strategy, categorized into four broad dimensions:

Dimension 1: Grasp the “Essence” of Creativity

When we implement creative education, we must take into consideration both research on creativity as well as practical experiences.

Principle 1: All-Inclusive Principle

1. When implementing creative policies, we must focus on both those with special talents as well as on the general public. Of course, we will continue to promote policies that support gifted and talented education and that cultivate special talent, but we must also pay homage to the idea that everyone is born with creative potential; as such, we should strive to maximize the creative aptitude of the general public as well.
2. At the policy level, we emphasize that both individual and group/team creativity are needed.
3. Creative teaching and learning must include knowledge, skill, and passion, and should be emphasized in all subject fields, including the sciences, the humanities, and the arts.
4. Criteria for assessing creativity should include both the process and the result.

Dimension 2: Constructing Structure and Ecology

Creative education should be studied from structural and ecological perspectives with the hope of formulating an ongoing supporting system and cultural environment for social innovation.

Principle 2: Fundamental Structure Principle

From a structural point of view we must create a cultural environment that prompts people to have an intrinsic motivation to be innovative. On the one hand we must teach people the content and skills of creativity, but teaching is not enough; we must also change the administrative and organizational levels so that they, too, support creativity.

Principle 3: Ecological Principle

We must reach out and make alliances with all aspects of society to create a culture and social environment that is conducive to creative development.

Dimension 3: To Revitalize Administrative Mechanisms

To enable the administration to become innovative, it is necessary to revitalize administrative mechanisms. If the administration is innovative, it will be easier to facilitate and integrate all relevant policies and to encourage first-line workers to participate in administrative policy decision-making.

Principle 4: Coordination Principle

Currently there are numerous education policies that emphasize creativity. We must coordinate these scattered policies and integrate them into one interconnected and comprehensive strategy that can be effectively implemented and that can minimize the waste of precious educational resources.

Principle 5: Sequential Integration Principle

Educational policies and practices regarding creative education for different levels of students in the education process should be interconnected. Moreover, teaching and learning materials should be adapted to meet the needs of students at varying levels and from different environments.

Principle 6: Empowering Principle

Historically, power has always come from the top down. We must turn this approach on its head by empowering people from the bottom up, encouraging teachers and administrators at the local level to participate in the policy-making process and to open and build channels of communication with all sectors of society.

Dimension 4: Creative Education Must be Based on Humanistic Principles,

Creative education should be based on humanistic principles, and we must make it possible for everyone to gain access to creative things and to enjoy being creative.

Principle 7: Motivation Principle

We must engage students in creative learning, teachers in creative teaching, and school administrators in creative management. The final goal of creative education is to motivate everyone's interest in creativity and to enable everyone to enjoy being creative and to actively create knowledge.

Principle 8: Access Principle

We should establish a cultural mechanism for accumulating, transmitting, sharing, and creating knowledge so that knowledge will become a resource that is not only *easily accessible* but also a *pleasure* to obtain.

Principle 9: Experiential Principle

Creative education should enable learners to experience the joy of being creative. This means that they need to be able to not only experience the process involved in being creative but also to be able to make sense of it in a meaningful and practical way. To stimulate and cultivate creativity we must emphasize experiential processes—to “learn by doing”—and enjoy the love of being creative.

Principle 10: Integration Principle

Creativity curriculum and materials should be embedded and integrated in every subject matter and into everyday life. On the one hand, we must design curriculum to adapt to different situations and the needs of every educational stage or level; On the other hand, we must also take into consideration local cultural elements already in place and encourage students to adapt and rethink these elements in new and creative ways.

Part 2: Implementation Strategies

In accordance with the principles already mentioned, several strategies for implementing creative education are recommended. These are as follows:

Section 1. Invigorating Structure and Ecology

The implementation of policy must take into consideration the values, opinions, and atmosphere of society. The government must make clear that it wants to implement these policies and then alter the structural system to make the policies work.

1. Proclaim the Enhancement of Creativity as Policy Priority.

2. Provide Resources for Creativity

Further the public's understanding of and valuing creativity through more effective activities and resources, such as creativity workshops, government-produced CDs and videotapes dealing with creativity, creativity resource centers, Internet web sites, and so forth.

3. Strengthen the Interaction Between Educational Systems and Local Communities and Encourage People to Start From Their Everyday Life to Discover and Apply Creativity.

Through effective public and private sponsorship and coordinating mechanisms, we hope to encourage the community to conduct all kinds of activities that will make life creative and that will make creativity a way of life.

- (1) Create learning partnerships among families, communities, and school, partnerships that work together as a team to establish their own local creative educational strength.
- (2) Where do we start? We start by beautifying our living environment and promoting urban renewal and public space design.
- (3) Strive to realize the dream of all 319 municipalities in Taiwan having their own library, museum, or other facility that can be used for knowledge sharing and for experience transmission.
- (4) With coordination from the community, we have to increase the functions of these various institutions and to digitize information so that knowledge can be more easily obtained and used for creative purposes.

4. Provide Exchange Opportunities Among Various Cultures to Foster a Diverse Environment for Creativity.

- (1) To facilitate and promote intercultural exchange so as to increase global-minded perspectives, that in turn would contribute to an increased multicultural environment more conducive to creative processes.
- (2) To respect and identify the multicultural nature of Taiwan and to encourage dialogue and exchange among different groups and cultures.

- (3) Providing government-sponsored awards and funding incentives to explore and to encourage cooperation between modern culture and traditional culture, through their transformation and their re-creation.
- (4) To respect minority culture—including but not limited to aboriginal groups, the disabled, the economically disadvantaged, and others—and to provide opportunities for such groups to develop their creativity.

Section 2: Reviving Administrative Infrastructure

1. Assess Current Policies and Systems In Order to Eliminate Barriers to Creativity.

- (1) Revise policies concerning how teachers are hired, employed, classified, promoted, and dismissed, requiring that innovative teaching and the cultivation of creativity in students be included as components in teacher evaluation.
- (2) Reassess the requirements of teacher training, which include such things as curriculum, internships, and teacher certification, and require that creativity courses be included in teacher training programs.
- (3) Establish mechanisms for the development of creativity for in-service teachers, such as implementing multiple systems for certifying teachers for professional development and encouraging elementary school, junior high, and senior high school teachers to engage in lifelong learning by participating in seminars, taking classes, workshops, reading clubs, independent study, visitation, teaching experimentation, designing curriculum, action research, publications, and so forth.
- (4) Encourage teachers to conduct action research. In much the same way that the National Science Council funds research for college faculty, so should the Ministry of Education establish a system to encourage and provide funding for elementary, junior high, and senior high school teachers to engage in action research.
- (5) Establish and strengthen policies regarding intellectual property to protect such things as copyrights and patents and to encourage creativity and discovery so as to increase opportunities for knowledge sharing and the dissemination of creative ideas.

2. Operating Styles of Educational Management

- (1) Evaluate the management of educational administration at all levels and specifically assess how the policies are formulated and the strategies used to carry them out, along with the administrators' attitudes toward those affected by these policies; after assessment, design an administrative system that will support creativity
- (2) Coordinate with other ministries and establish a guiding mechanism to help carry out ideas from their conceptualization to their final stage of application.
- (3) Establish a system to specifically include people working in the field to participate in decision-making and to plan activities.

3. Establish a Rigorous and Just Review System

When selecting reviewers and when formulating review criteria and procedures, we must do so with the assumption that creativity is to be encouraged.

4. Create Partnerships Among Industries, Universities, and Research Centers for Dialogue, Cooperation, and Integration.

- (1) Break through the rigid boundaries of traditional disciplines, encourage cross-discipline dialogue and integration across fields, and open up new issues and areas for teaching and research.
- (2) Establish a teaching venture capital system, in which money and resources are invested to provide support for the emergence of new fields of discipline.
- (3) Promote partnership among industry, academia, and research centers such that universities and colleges become centers for the transfer and dissemination of technology, with the eventual goal of knowledge flowing, gaining value, and serving the whole society.

5. Build an Evaluation System to Facilitate Creative Instruction

- (1) Eliminate repetitive evaluations and revise the criteria and methods of evaluation so as to establish a new evaluative system. This system would support and encourage creative instruction and take into consideration the innovative environment and creative culture in which the instruction takes place.
- (2) From a multidimensional perspective, we must emphasize the students' actual performance, not merely the written materials provided by the school. We must also encourage success but not punish "failure." If some people propose ideas that are especially creative, we must provide concrete resources such as money, time, and even mass media to encourage them and free them up to pursue their ideas.

6. Transform Universities Into Centers of Innovation and Creativity

- (1) Revise policies concerning faculty evaluation and promotion giving more credit to original work.
- (2) Identify and cultivate college faculty's research and development potential and help them to engage in knowledge creation and "value added" knowledge creation.

Support universities and colleges to build either single discipline or cross-disciplinary learning communities of creative teachers in an effort to develop innovative curriculum and teaching methods that improve the process and style of how students learn, with the major goal of cultivating the students' creativity.

Section 3: Strengthening School Management

1. Assist Schools and Communities in Developing Their Local Educational Features

The government should legally allow elementary, junior high, and senior high schools to establish a “school development fund system”. This system would provide opportunities for the schools to maximize their creativity, to make use of social resources, and to establish partnerships with local civic or private groups to develop the schools’ special features.

- (1) Schools and communities should work together to identify the content for creativity in their own community culture—which become bases for developing curriculum and teaching materials—and to establish a mechanism to involve the community in instructional activities..
- (2) Establish a “creative people in residence” program in the schools.

2. Establish “Creative-Based” Schools

- (1) Identify creative schools and provide concrete awards; also identify and acknowledge creative school managers.
- (2) Every school should design a creative space and environment which is conducive to creative learning.; This design should encourage students, teachers, and the community to work together to experience creativity.

3. Engage Schools in Creative Education as Learning Organizations

- (1) Plan and establish a vision for the school and encourage and engage the school to organizational innovation, through teachers’ team efforts.
- (2) Encourage students and teachers to work together to design and evaluate creative teaching and innovative activities.
- (3) Identify and select “teacher leaders” and involve them in “teacher leader” teams of cooperative learning so as to improve their professional development.

4. Encourage School-Based Professional Development for Teachers

The school should help teachers to engage in action research and innovative teaching experiments and to provide opportunities for teachers to present, share, apply, and engage in inter-school exchange, so as to facilitate teachers’ professional development and lifelong learning. The government should provide funding and resources to encourage teachers’ professional development, action research, and teaching experimentations.

5. Build Alliances Among Schools of Varying Levels

- (1) Universities and colleges should take initiative in making available their hardware and software resources to provide opportunities for school teachers and students to develop their creativity and to also provide counseling to students with creative talents in all fields.
- (2) University and college research teams should invite school teachers of different levels to join them in their research in the hope that these teachers can then

disseminate their findings to their students as well as provide professional development opportunities for teachers.

- (3) The government should request proposals from schools for cultivating creativity and, if accepted, give schools enough time to plan and implement their proposals. Proposals can come from a single school or from several schools working in collaboration with one another.

6. Establish Forums for Sharing Creative Experiences

In coordination with the Ministry of Education's "Information Education Plan," a "creative teaching website" should be established. On this website will be such things as teacher's action research results, school creativity cultivation projects, information about creative schools and creative performance as determined by educational administrative authorities, and other such resources. This website should become a center for the collection and dissemination of creative resources..

Section 4: Enrich Curriculum and Instruction

1. Specify Creative Thinking as One of Our Educational Goals and Incorporate This Into Educational Curriculum at All Levels.

2. Design Creativity-Based Curriculum and Instruction and Develop Materials for Fostering Creative and Innovative Capacities.

- (1) Publish and/or develop materials promoting teaching methods and strategies for creative education.
- (2) Reduce the amount of material that teachers must cover so as to give them more time to conduct research and to engage in creative teaching.
- (3) Design a flexible curriculum and give teachers freedom to make use of the unused time.

3. Incorporate and Encourage the Cultivation of Creativity Into the Teaching of Every Field of Knowledge.

- (1) Strengthen guided reading and learn from role models.
- (2) Encourage teachers to participate in collaborative team teaching efforts and to learn from one other.
- (3) Encourage teachers to research and develop teaching materials and methods for creativity and use these in their creative teaching and then conduct action research.
- (4) Encourage teachers to form creative and innovative communities.
- (5) Select teachers who are role models of creative teaching and reduce their teaching and administrative workload and ask them to organize demonstrations of their work and to promote creative teaching.

- (6) To establish creative resource classrooms and provide space for teachers to conduct creative activities.

4. Provide Guidance and Counseling for “Neglected and/or Less Motivated” Students to Develop Their Creative Potential.

Creative education should stimulate the learning potential of all students; however, there are students who are low achievers and/or dropouts who typically fall between the cracks and are, therefore, always neglected by the education system. Each school should provide creative education opportunities for these students to develop their potential.

Chapter 4: Initial Action Programs

We propose that six action programs be initiated to actively promote creative education in our society. The resources for these programs should be funded primarily by the Ministry of Education, partly by other governmental sectors, and complemented by the private sector. The six initial programs are:

- (1) Nurturing trips for creative learners
- (2) Professional development for creative teachers
- (3) Comprehensive management for creative schools
- (4) Creative life in action
- (5) Online learning via a creative intelligence bank
- (6) Ongoing consolidation of creativity cultivation

Program 1: Nurturing Trips for Creative Learners

This program intends to inspire and encourage students to participate in creative learning, to engage in life exploration, and to enhance problem-solving capabilities in all its various aspects, especially for students who are low and underachievers, school dropouts, and those who are culturally disadvantaged. We hope these students will take initiative in developing creative ideas and actions plans to realize their full creative potential. We expect that as students learn new ways to think and to see the world around them, they will develop an “intrinsic motivation” for learning, anxious to experience creative processes and to see the outcome of their creative work. To achieve these goals, the Ministry of Education will provide the following resources for students:

- (1) Establish creative clubs and organizations at schools and elsewhere where students can explore their multiple talents.
- (2) Design creative on-campus spaces for students to display their creative works.
- (3) Hold national exhibitions on various themes and select outstanding works for display.
- (4) Provide scholarships with financial supplements from local communities for the purpose of cultivating more creative learners.
- (5) Hold creative life experience camps for students to get out of the classroom and experience the joy of nature and to develop an appreciation for life in general.
- (6) Provide special assistance to low and underachievers, school dropouts, and those who are culturally disadvantaged to help them develop their creative potential.

Program 2: Professional Development for Creative Teachers

This program is designed to assist teachers in mobilizing and cultivating their creative potential. We hope to facilitate this in all phases of professional development, from pre-service teacher education to in-service professional development. We also hope to engage teachers in action research and develop a system to reward those teachers who do well. We hope that teachers would eventually become active learners who are willing to engage in innovative teaching and that teachers will become active researchers who use their work in their teaching. Last but certainly not least, we hope that teachers will help their students to achieve and to be creative.

The Ministry of Education will provide the following resources to encourage teachers:

- (1) Support school teachers to plan school-based professional development, to engage in action research, and to experiment with innovative teaching.
- (2) Select teacher leaders with creative capabilities and form creative teaching teams for disseminating creative teaching ideas.
- (3) Provide workshops for teachers' professional development and enhance opportunities for exchanging ideas.
- (4) Design a creative teaching gallery for demonstrating creative teaching methods and for displaying teaching materials and teaching aids; competitions like Disney's Great Teacher Award should be held annually to honor the most creative teachers or teaching teams.
- (5) Establish a creativity-oriented system for teacher recruitment, promotion, and evaluation.

Program 3: Comprehensive Management for Creative Schools

The program aims at constructing creative campuses, fostering creative culture, and adopting creative school management, in order to shatter the dominant and tired conceptualization of education as nothing more than the pursuit of a diploma and a degree and to shift society's overemphasis and over trust in only a few school "stars." By adopting such a comprehensive approach, it is expected that most schools could be transformed into centers with diverse creative features. Furthermore, with the support of local communities and the private sector, cultural heritage and local features could become valuable school resources.

The Ministry of Education will provide resources to:

- (1) Transform schools into *learning* organizations, establish a vision, foster a creative learning culture, and develop each school's unique features.
- (2) Select creative principals to lead schools, and honor teachers and administrators who manage schools creatively.
- (3) Design and manage creative campuses and introduce art and artists into schools.
- (4) Organize creative management teams and initiate facilitating mechanisms for creative administration.
- (5) Identify and publicize creative schools that have diverse themes as one their unique features .

Program 4: Creative Life in Action

The purpose of this program is to encourage all people to bring creativity to their families, to foster creative culture with local features, and to improve their life quality, and to increase the nation's competitive strength. It is our desire that everyone in society would become creative, to make life creative and also make creativity a way of life.

The Ministry of Education will provide resources to:

- (1) Provide resources for schools, communities, foundations, and other civic organizations to work collaboratively and to encourage all people to develop their creative ideas and share them with society; also, to identify local creative people and cultural strength; and encourage local libraries, museums, municipalities to display various kinds of artistic and cultural works and crafts along with ecological exhibits. All of these things can serve as resources for dynamic teaching.
- (2) Produce a series of radio and television programs and report on diverse creative families, creative communities, and creative lifestyles, as well as publicize creative events, games, competitions, creative works, and creative individuals.
- (3) Discover and recognize special cases of innovation in traditional cultures and in contemporary living

Program 5: Online Learning Via a Creative Resource Bank

The purpose of this program is to provide teachers, students, and the general public information online about instructional resources, creative competitions, creative works, online learning, psychological tests, other learning web sites, and so forth.

The Ministry of Education will provide resources to:

- (1) Establish a creative teaching resources center online to develop materials for all school levels and to gather creative teaching methods, teaching aids, and lesson plans.
- (2) Establish a "creativity bank" to collect creative ideas and works and assist creative people in managing their intellectual property and in obtaining patents and copyrights.
- (3) Promote online learning, teaching, and the development of educational online web games; also, establish professional knowledge regarding creativity, its development, and current status, as well as to create interactive simulation games dealing with creativity.

Program 6: Ongoing Consolidation of Creativity Cultivation

The purpose of this program is to strengthen the foundation for ongoing research in creativity and innovation and to consolidate the theoretical knowledge base of strengthening local features, policy making, policy implementation, and educational

practice of Taiwan's creative education. We should review what has been done in the field creative education and then look into the future to see what direction creative education should go; we must grasp the trends and then integrate research on creativity and innovative education into our society and continue to shape relevant policy with the hope of establishing in Taiwan a "republic of creativity."

The Ministry of Education will provide resources to:

- (1) Continue the existing creative education programs in engineering colleges and business schools and to develop teaching materials facilities.
- (2) Combine arts and information technology to develop creative teaching methods that integrate technology and humanities.
- (3) Build research bases and develop national indicators for creative education and to develop criteria for regular evaluation of creative learning and teaching, and then follow-up as appropriate.
- (4) Establish international creativity alliances for promoting the following: exchanges of creative people (e.g., scholars, artists, students, teachers, etc.), sharing creative ideas and experiences, collaborative research and projects, internships, symposiums, and so forth; to grasp trends in creativity and to strengthen the cultivation of creativity in all levels of education.
- (5) Regularly hold innovative forums and invite scholars and experts to attend to discuss the trends in creative education and social innovation and to seek their ongoing recommendations.