1. Project Data

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Sector(s)
Workforce Development/Skills(99%):Public Administration - Education(1%)

Theme(s)
Education for the knowledge economy(100%)

Prepared by  Anthony Martin Tyrrell
Reviewed by  Judyth L. Twigg
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Group  IEGHC (Unit 2)

2. Project Objectives and Components

a. Objectives

The project development objective (PDO) for the Liaoning and Shandong Technical and Vocational Education and Training (TVET) Project as per the Loan Agreement (approved June 10, 2010, signed August 9 and becoming effective November 5, 2010) was: "to improve the quality and relevance of technical education in eight schools in Liaoning and Shandong and produce lessons from this experience as a guide for future school reforms and policy development." The same objective was also noted in the Project Appraisal Document (PAD, p. 5),

A project restructuring in January 2015 involved the formal revision of the PDO to read: "to improve the quality and relevance of technical education in project schools in Liaoning and Shandong provinces and produce lessons from this experience as a guide for future school reforms and policy development." This revision reflected the fact that one of the targeted schools dropped out of the project. (All
participating schools were located in urban areas, but served a predominantly rural population with about 70 percent of their enrollment — just over 70,000 enrolled across the seven participating schools — coming from low-income families, and another 15 percent from urban families receiving the basic living subsidy. The restructuring also involved the refinement of one outcome indicator for consistency with government reporting: "percent of graduates finding initial employment within three months in the specialties in which they were trained" was changed to "percent of graduates finding initial employment within six months in the specialties in which they were trained." The estimated targets for the revised indicator remained the same, noting the targets referenced 91% and 98% success rates for Liaoning and Shandong provinces respectively. The loss of one participating school had no material effect on the PDO or indicators. The revision of the definition of the PDO indicator was warranted for consistency with client systems. The fact that already ambitious targets were not revised was reasonable. A split rating is therefore not warranted.

Finally, for the purposes of this validation exercise, this review assesses the project across the following two objectives contained within the overall PDO:

- Objective 1: To improve the quality and relevance of technical education in project schools in Liaoning and Shandong provinces; and
- Objective 2: To produce lessons from this experience [as Objective 1] as a guide for future school reforms and policy development.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

20-Jan-2015

c. Components

The project had two components and a total of nine subcomponents, six under Component 1, and three under Component 2.

Component 1: School-Based Reforms and Innovation had six sub-components (original World Bank commitment, $39.24 million total, actual $39.24 million). The ICR does not provide specific detail on actual counterpart contribution (original counterpart financing commitment was $34.13 million), but the ICR notes that "throughout implementation, counterpart funding was assured, often in amounts above what had been envisaged" (p. 9). This component set out to introduce reforms that provided goods, services, and works through the following six sub-components:

Subcomponent 1.1: Strengthen the linkage between schools and industry. This subcomponent aimed to strengthen and institutionalize linkages between the schools and local industry to promote a more efficient flow of information and services between the parties affecting the quality and relevance of the training offered by schools.

Subcomponent 1.2: Improvement of school management. This subcomponent aimed to build capacity to ensure the effective use of school resources and production of the learning outcomes needed by a market-led economy.

Subcomponent 1.3: Curriculum reform. This subcomponent aimed to introduce a new, more flexible competency-based training (CBT) curriculum developed from competency standards established in consultation with local industry to promote improvements in quality and relevance of the training offered.

Subcomponent 1.4: Improvement of student assessment and quality assurance. This subcomponent aimed to improve quality by helping establish a competency-based benchmark for measuring student and school performance and by providing employers with a tool to assess the level of competencies acquired.

Subcomponent 1.5: Improvement of instructor capacity. This subcomponent aimed to strengthen instructional capacity and the quality of training by providing services to train instructors through pre-service and in-service measures to use the competency-based curriculum and a learner-centered pedagogy.
Subcomponent 1.6: Upgrading of instructional equipment and facilities. This subcomponent aimed to expand instructional facilities and equipment where there was evidence of market demand for the skills to be developed.

**Component Two. Knowledge Development, Policy Studies and Capacity Building** (original World Bank commitment, $0.66 million, actual $0.42 million; original Korean Trust Fund commitment $0.20 million, actual $0.20 million). The ICR does not provide specific detail on actual counterpart contribution (original counterpart financing commitment was $0.20 million), but the ICR notes that "throughout implementation, counterpart funding was assured, often in amounts above what had been envisaged" (p. 9). Learning from school-based reforms and innovations was an important feature of the project intended to support better management and policy development for technical and vocational education and training throughout China. This component was to provide support under three subcomponents as follows:

- **Subcomponent 2.1. Conduct of monitoring, evaluation, and policy studies.** This subcomponent aimed to finance local and international services and goods (e.g., monitoring and evaluation system school-based reforms and innovations, a management information system containing the monitoring indicators, analysis of indicators and regular reporting of results, provincial level policy studies).

- **Subcomponent 2.2. Dissemination of knowledge and good practices.** This subcomponent aimed to enhance knowledge acquired from monitoring and evaluation produced in regular reports and made publicly available in a variety of forms.

- **Subcomponent 2.3. Enhancing project management and coordination.** This subcomponent aimed to build capacity for project management through training and other supports to project management.

d. **Comments on Project Cost, Financing, Borrower Contribution, and Dates**

**Project Cost:** The project was estimated to cost a total $74.53 million. The ICR does not provide detail on actual overall costs, but notes that 99.40% of planned World Bank financing was consumed, as was 100% of financing from the Korean Trust Fund.

**Financing:** The project was financed by a $40 million IBRD loan of which $39.76 million (99.40%) was disbursed. $200,000 was also provided by the Republic of Korea Economic Development Cooperation Fund, of which 100% was disbursed.

**Borrower Contribution:** Planned borrower contribution was $43.53 million. The ICR does not provide detail on actual borrower contribution but, as above, it notes that "throughout implementation, counterpart funding was assured, often in amounts above what had been envisaged" (p. 9).

**Dates:** The project was restructured once, on January 20th 2015, to reflect in the PDO that one of the participating schools had dropped out of the project. Funds originally allocated to the school that dropped out ($3.50 million) were distributed across the other three schools in the Liaoning Province to meet price increases associated with civil works, materials, and equipment, as well as exchange rate losses. The Level 1 restructuring also modified the second PDO indicator from "percentage of graduates finding initial employment within three months in the specialties in which they trained" to "percentage of graduates finding initial employment within six months in the specialties in which they trained." This aligned the indicator with the Government's updated standardized indicator.

### 3. Relevance of Objectives & Design

**a. Relevance of Objectives**

At preparation, the project's objectives were aligned with high-level goals – strengthening market institutions through reforms that would enhance performance and accountability of TVET institutions and increasing the relevance of technical and vocational education -- set out in the Government's 11th Five-Year Plan (2006–2010), and with the World Bank Group's 2006–2010 Country Partnership Strategy (CPS) for the People’s Republic of China (with particular reference to Pillar 5 - Improving Public and Market Institutions). The project also responded to restructuring of local economies in Liaoning and Shandong and the shift beyond low-skilled, labor-intensive manufacturing to more capital- and skill-intensive growth. At completion, the project's objectives continued to be relevant to high-level goals set out in both the country's 12th Five-Year Plan (2010–2015) and the World Bank Group's 2013–2016 CPS. The objectives were also relevant with reference to the Government's "Development of Modern Vocational Education Plan 2014–2020," and its "Medium- to Long-Term Education and Talent Development Plans for 2010–2020," that proposes increased access, increased quality, and improved relevance through stronger school-industry linkages, improved TVET curricula, and flexible transitions between secondary and vocational education.
b. Relevance of Design

Project design was broadly robust and well thought through. The Results Framework was well defined, with a clear objective and a logical flow between planned activities and intended outcomes. The focus on just two components ensured manageability. However, the lack of an overarching, single co-ordination mechanism resulted in what were, effectively, two separate projects in one bundle, which had implications during implementation in terms of coordinated progress and in terms of developing a critical mass of evidence to support ongoing policy development.

4. Achievement of Objectives (Efficacy)

Objective 1

Objective
To improve the quality and relevance of technical education in project schools in Liaoning and Shandong provinces.

Rationale
For the purposes of this validation exercise, the PDO is divided in two parts. The first part could notionally be further divided in two to deal separately with “quality” and “relevance”; however, the majority of relevant indicators are, in fact, pertinent to both.

Outputs:

- The percentage of instructors trained in industry attachments increased from 50% and 18% in Liaoning and Shandong respectively in 2010, to 71% and 80% in 2015, exceeding respective targets of 70% and 76%.
- The percentage of industrial experts from the enterprises who taught in schools increased from 20% and 24% in Liaoning and Shandong respectively in 2010, to 60% and 55% in 2015, exceeding respective targets of 50% and 45%.
- The number of new or enhanced internal school regulations and procedures increased from zero (0) in each of Liaoning and Shandong in 2010, to, respectively, 31 and 200 in 2015, exceeding a target of 12 for each province.
- The number of new practices / school reform initiatives implemented increased from zero (0) in each of Liaoning and Shandong in 2010, to, respectively, 48 and 100 in 2015, exceeding a target of 36 in the case of each province.
- The percentage of students in both Liaoning and Shandong enrolled in modular, competency-based training (CBT) increased from zero (0) in 2010 to 100% in each province in 2015, meeting targets.
- The percentage of students in both Liaoning and Shandong assessed with outcomes-based student assessment systems increased from zero (0) in 2010 to 100% in each province in 2015, meeting targets.
- The percentage of students in both Liaoning and Shandong utilizing upgraded instructional equipment aligned with new CPT curricula increased from zero (0) in 2010 to 100% in each province in 2015, meeting targets.
- The percentage of instructors in both Liaoning and Shandong using new CBT curricula increased from zero (0) in 2010 to 100% in each province in 2015, meeting targets.
- School management information systems in all 7 participating schools were improved, meeting targets.
- The number of provincial capacity-building activities in Liaoning and Shandong increased from zero (0) in each province in 2010 to 8 in Liaoning
and 35 in Shandong in 2015, exceeding respective targets of 6 and 20.

- The number of participants in provincial capacity building activity in Liaoning and Shandong increased from zero (0) in each province in 2010 to 180 participants in Liaoning and 130 in Shandong, exceeding a target of 100 participants for each province.

Outcomes:

- The percentage of graduates who passed skill certification exams increased from 90% in Liaoning and 93.5% in Shandong in 2010, to, respectively, 96% and 98% in 2015, meeting targets in each instance.
- The percentage of graduates who found initial employment within six months in the specialties in which they were trained increased from 72% in Liaoning and 73.4% in Shandong in 2010, to, respectively, 91% and 98% in 2015, exceeding respective targets of 82% and 88.2%.
- Levels of trainee and employer satisfaction increased from, respectively, 3.66 (trainee) and 4 (employer) in Liaoning and 4.19 (trainee) and 3.88 (employer) in Shandong in 2010, to 4.53 (trainee) and 4.47 (employer) in Liaoning in 2015, and 4.38 (trainee) and 4.66 (employer) in Shandong, 2015 (no target set).

Rating
High

Revised Objective
The objective and key associated outcome targets were not materially revised.

Revised Rationale
The objective and key associated outcome targets were not materially revised.

Revised Rating
Not Rated/Not Applicable

Objective 2

Objective
To produce lessons from this experience as a guide for future school reforms and policy development.

Rationale
This aspect of the overall objective refers to an output (lessons produced) rather than an outcome (that might, for example, have sought to trace the influence of lessons learned). It is also noted that no reference is made to the quality of the lessons that may be generated and, reflecting the parallel structure of the project across the two provinces, no reference is made to overarching lessons having produced reform or influenced policy. In fact, by design, all measured activities and outputs are separately presented on a province-by-province basis. In line with this limitation, the results framework presents related output indicators only (as below). That said, the TTL informed IEG that that learning from the project has been put to use in various forms, for example, to inform the ongoing expansion and development of TVET to other provinces, and to inform World Bank Group input to Education 2030 (Incheon Declaration and Framework for Action Towards inclusive and equitable quality education and lifelong learning for all).

Outputs:

- Improved student tracer and beneficiary studies were implemented and analyzed in all seven participating schools.
- Employer satisfaction surveys were implemented and analyzed in both Liaoning and Shandong.
• The number of knowledge products produced in Liaoning and Shandong increased from zero (0) in 2010 to, respectively, 80 and 160 in 2015, exceeding respective targets of 75 and 100.

Rating
Substantial

Revised Objective
The objective and key associated outcome targets were not materially revised.

Revised Rationale
The objective and key associated outcome targets were not materially revised.

Revised Rating
Not Rated/Not Applicable

5. Efficiency

The PAD referred to a cost-benefit analysis undertaken to support investment in the project. That analysis was largely focused on increased numbers of students registered with the participating schools, and the public-good element of anticipated lessons about the application of the competency-based approach. Public investment was further justified on grounds of market failures and social equity, noting that private capacity is constrained by access to capital for underwriting the more costly investment in technology required for advanced skills training. The analysis also stated that the project would improve social equity by investing in eight schools that enroll large numbers of the rural and urban poor, and would open pathways for young women to non-traditional employment in higher-paying occupations. The PAD also specifically noted, although this was not expressed as a target, that the project would disproportionately benefit students from rural areas, who were to make up 105,000 of the projected 134,000 graduates, and would also benefit 20,000 students from households with low socioeconomic status receiving urban basic living subsidies.

The ICR states it was not possible to recalculate an ex-post, cost-benefit analysis based on the assumptions set out during preparation, but rates efficiency as "Substantial" based on analysis of the extent to which assumptions made in the PAD materialized (with reference to numbers of graduates and available wages). Assessment of efficiency is also based on findings from evaluation reports, equity indicators, and efficiency in resource usage, including unit cost comparisons. The ICR states that the analysis confirms a growth rate of graduation of CBT courses that is higher than original assumptions, higher wages for graduates of CBT courses over those taking non-CBT courses, increased participation of students from rural areas and with low socioeconomic status, and unit costs of construction, training, and publishing lower than comparable provincial averages.

There were minor shortcomings in efficiency of implementation involving initial delays, especially in Liaoning Province, with procurement arrangements. These delays were associated with the need to clarify the respective relationships and roles of the Project Management Office (also represented by management consultants hired as intermediaries) and schools in managing procurement. More generally, implementation units in project schools struggled with the World Bank’s procurement and financial management (FM) procedures, although this issue was ultimately addressed through the provision of training in procurement and FM.

Efficiency Rating
Substantial
a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

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* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The objectives were highly relevant to country conditions, Bank strategy, and government strategy. Design was substantially relevant, with logical and plausible linkages between planned activities and intended outcomes. The objective to improve the quality and relevance of technical education in project schools in Liaoning and Shandong provinces was highly achieved, with most output and outcome targets exceeded. The objective to produce lessons from project experience as a guide for future school reforms and policy development was substantially achieved, with studies completed and lessons learned, but little evidence to date on actual application to school reform or new policy. Efficiency was substantial. Overall outcome is rated Satisfactory, which is indicative of only minor shortcomings in preparation and implementation.

a. Outcome Rating
   Satisfactory

7. Rationale for Risk to Development Outcome Rating

The Government continues to demonstrate political and financial commitment in the area of TVET/CBT reflecting continued policy relevance as set out in the 12th five year plan, and the expansion of CBT-based projects to other provinces. As such, risk to development outcome is negligible.

a. Risk to Development Outcome Rating
   Negligible

8. Assessment of Bank Performance

a. Quality-at-Entry
   Project preparation began in 2006. The project was to be the first education project to include a project agreement directly with beneficiary provinces and to provide for fund transfers directly to participating schools. Project design took into account earlier World Bank support for TVET in China (relevant projects closing in 1997, 2002, and 2006), taking on board specific lessons such as the value of quality labor market information in linking learners, providers, and employers. In addition, the PAD lists a range of lessons learned from broader, international experience that informed project design, including, for example, the need for strong school/industry links, the importance of pathways to progression, and the broader promotion and support of lifelong learning.

In July 2006, the Chinese State Council approved proposals from three Provinces - Guangdong, Shandong, and Liaoning - each to borrow US$20 million (under a combined loan) from the World Bank for a TVET operation designed to support emerging skill needs in their more advanced economies. The project overall was expected to serve as a pilot and to explore innovative approaches for reforming the TVET
In May 2008, as a result of uneven progress, the Government agreed to allow Guangdong to move ahead under a separate pilot project, which was ultimately approved with World Bank support on June 2, 2009. To help progress the overall effort, the World Bank secured US$600,000 from the Korean Trust Fund, which was utilized, inter alia, to help focus efforts in Liaoning and Shandong, complete the selection of participating schools, and finalize proposals, including work with Liaoning Province to resolve institutional issues associated with the proposed governance structure for the project in that province. Ultimately, the Results Framework for the Shandong and Liaoning TVET Project was succinct, with measureable indicators. The second of three PDO indicators was formally amended in 2015 to reflect the dropout of one of eight participating schools. The three PDO indicators were outcome focused (relating to completion, employment, and satisfaction outcomes), albeit focused on relatively simple and locally based outcomes. There was no outcome indicator to measure the extent to which the experiment influenced policy and investment as a whole or relating to the quality of lessons learned and produced; measurement of that aspect of the PDO was located in an output indicator associated with the production and dissemination of knowledge products. The ICR notes, given the long lead time, that some of the documentation (i.e., project manuals) could have been prepared in advance of approval, although it also notes that their preparation in the earliest stages of implementation helped develop buy-in for necessary policies and procedures.

Early investment in local capacity through technical assistance and the inclusion of strong risk mitigation provided a robust platform that managed, in the main, to counter implementation complexities (particularly in relation to Liaoning province). The PAD identified three main risks, including the possibility of overemphasis on upgrading technology and infrastructure at school level without due attention to CBT-based curriculum reforms, weak technical capacity at provincial and school levels to implement CBT-based curriculum and management, and weak institutional and technical capacity for project management and ability to provide coordination, especially in Liaoning province where the provincial management structure was complicated. In mitigation, the provision of buildings and equipment was tied to CBT-based curriculum reforms, technical assistance and a Project Steering Committee (PSC) to provide coordination in both provinces. Mechanisms were included to support successful implementation in the form of industry advisory committees, technical advisory committees, working groups of industry and school instructors, workshops, study tours, and the provision of technical assistance and training. Each province had a coordinating office, and below that level, each sub-project (province) was further supported by an inter-bureau PSC to provide policy guidance and overall direction, a PMO to implement day-to-day project activities, coordinate with participating schools, and handle communication with the World Bank, and, at the level of each participating school, a PIU. Although that design supported effective implementation within each province on a stand-alone basis, it was a minor shortcoming that project design (through political imperative) allowed for two very different types of implementing agencies with overall coordinating responsibility. These agencies operated in parallel to each other in the respective provinces - the Shandong Education Bureau, and the Liaoning Urban Construction Office (this latter had financial management and procurement expertise but no background in education policy or practice) -- representing a level of complexity that would make overall coordination and aggregation of lessons challenging in certain respects.

Quality-at-Entry Rating
Satisfactory

b. Quality of supervision
There were nine formal World Bank implementation support missions from July 2011 to November 2015, including the Midterm Review (MTR) mission in March 2013. The implementation team received significant input from a country office-based task team leader who had participated actively in project preparation. The implementation team was particularly involved in addressing delays in implementation associated with the less orthodox, or less linear, project management arrangements in Liaoning province. The Bank team worked with relevant stakeholders (the PMO and participating schools) to achieve compromise that allowed for progress. In the case of Shandong province, slow early disbursement was addressed. Prior to the MTR (March 2013), ongoing monitoring had, as relevant, rated implementation progress moderately unsatisfactory, but by the time of the MTR, implementation had improved and was judged moderately satisfactory, noting progress toward meeting outcome indicator targets. In both provinces, infrastructure development was well under way, but the most serious common barrier was slow disbursement on school reform expenditures. The MTR also identified a number of issues, including little exchange and sharing of experiences among the project schools, and potential bottlenecks to more effective and continued school-level reform (e.g., the fact that linkage between the new standards and programs being developed by schools and the national skills certification system that had not
yet been updated). These issues were progressively addressed post-MTR. In addition, the MTR noted the need to amend the PDO to reflect the withdrawal of one school (because of a mandatory school site change); however, the formal restructuring request was forwarded to the World Bank only on September 15, 2014 (and was approved January 2015). The delay in submitting the formal request was associated with protracted discussions between the Liaoning PMO and the three remaining schools in the province regarding the re-distribution of resources previously earmarked for the school that had to leave the project. Overall, the supervision and support provided was thorough, marked by strong commitment and continuity, and a strong results focus on the part of the implementation support team.

Quality of Supervision Rating  
Satisfactory

Overall Bank Performance Rating  
Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

The Government was highly committed to the project and has continued, through its broader support for TVET and the competency based approach, to be supportive of project outcomes. The Government participated actively in early workshops, knowledge exchanges, and study tours. The Government was committed to competency-based skills development as the preferred mode of instruction in TVET schools and was instrumental in emphasizing the desirability of scaling up this model to other provinces through a process of knowledge sharing and dissemination. The project operated on a decentralized basis, again with Government support, including support in the face of issues that could jeopardize implementation (i.e., the Government worked with the World Bank in promoting a solution to institutional issues in Liaoning that surfaced during early implementation, detailed in Section 9b). Counterpart funds required for implementation were provided on a regular and timely basis. The ICR notes that “throughout implementation, counterpart funding was assured, often in amounts above what had been envisaged” (p. 9), which also suggests substantive commitment.

Government Performance Rating  
Satisfactory

b. Implementing Agency Performance

Early difficulties arose in the project structure in the Liaoning province associated with challenges encountered by the PMO, which was familiar with World Bank FM and procurement procedures but less so with education policy and practice, in working with the PIUs in the project schools with respect to the contracting of support to those schools. The PIUs felt that proposed consultancy involvement would duplicate the role, as they understood it, of the PMO. However, indicative of the positive contribution of the Government and the World Bank, as well as the more general goodwill among stakeholders at various levels, this issue was satisfactorily resolved. Implementation in Liaoning lagged that in Shandong for a while, but the province subsequently caught up. Both PMOs assumed an increasingly proactive and supportive role in working with the PIUs located in participating schools, focused on the provision of technical support as required, facilitation of implementation, follow-up on the collection of monitoring data, and submission of project expenses. Both PMOs maintained commitment to evaluation of results in project schools, including through beneficiary assessments. The PMOs also played a key role in promoting the dissemination of project experiences and cross-fertilization of implementation lessons. At the school level, the PIUs supported implementation and performed well despite initial unfamiliarity with World Bank procedures and frequent changes in staffing. Procurement was consistently rated Satisfactory although, as noted above, difficulties in procurement management, particularly in Liaoning Province, caused initial delays.

Implementing Agency Performance Rating  
Moderately Satisfactory

Overall Borrower Performance Rating  
Moderately Satisfactory
10. M&E Design, Implementation, & Utilization

a. M&E Design
   a. M&E Design
   The PAD committed to three types of M&E activities: regular/routine monitoring to inform ongoing project management (the PAD also committed, to the extent possible, to the integration of project M&E into the existing data collection and utilization mechanism of participating schools), mid-term review to be led by the PMOs, and impact evaluation (to validate outcomes and identify lessons on types and modalities of interventions that work) at project conclusion. The impact evaluation efforts, also coordinated and managed by the provincial PMOs, were to employ quantitative and qualitative methodological approaches to collecting and analyzing data, including student tracer studies, beneficiary (graduate) assessments, and employer surveys (baseline, midterm, and completion). M&E activities were embedded in the project's design under Subcomponent 2.1 and formed part of an inclusive capacity building effort that sought to enhance planning and management at the school level. The ICR notes that the design of the Results Framework was highly participatory, supported by World Bank M&E specialists. Intermediate outcome indicators were linked, as appropriate, to project components and subcomponents, and baseline and target values were provided for all indicators. As noted above, the indicator that was formally modified at the same time as the Level 1 modification to the project objective in the January 2015 restructuring was compatible, as defined, with the Government’s respective indicator, and was adjusted to reflect a subsequent change in the Government’s standard indicator.

b. M&E Implementation
   At the outset, schools were slow to begin submitting data on school-level outputs and outcomes, and the PMOs were slow in consolidating the information according to the project's Results Framework. The Bank team reinforced the importance of M&E in support of desired reforms. Over time, M&E improved at the school (PIU) and PMO levels, although Shandong province demonstrated greater capacity in this regard than Liaoning given the more complex set of project management arrangements in the latter case. However, the ICR notes that, by early 2014, both provinces were routinely submitting progress reports with updated output and outcome indicators, were adjusting annual plans on the basis of progress, and had contracted consultants to carry out evaluation. Furthermore, all seven participating schools carried out an employer satisfaction survey and beneficiary survey; however, variations in methods, definitions, and baselines for survey data made consolidation of survey data difficult, possibly reflecting the absence of a single coordinating unit for the project as a whole.

c. M&E Utilization
   Baseline data for both provinces’ evaluations was compiled in 2011, and each of the provinces completed their evaluations by December 2014 and updated the evaluations with data up to December 2015. The World Bank mobilized funding to support evaluation and also provided active support to local researchers, applying lessons from the evaluation of the Guangdong TVET Project that had originally been linked to this project. This adaptive learning approach ensured higher quality evaluations in Liaoning and Shandong than in Guangdong. The experience also helped build local capacity in evaluation. The ICR notes that the building of M&E and evaluation competence has led to changes at the school, provincial, and national levels, as evidenced, for example, by the institutionalization of school-industry cooperation, including standardized agreements, and the use of project school CBT textbooks by the provincial expert team to promote CBT development in other TVET schools.

M&E Quality Rating
Substantial

11. Other Issues

a. Safeguards
   The project was classified as Category C for its minimal adverse environmental impacts according to OP 4.01 - Environmental Assessment. It is worth noting that one of the schools constructed in Liaoning, the Liaoning Urban Construction School, is an ecological energy-saving, low carbon emissions building that has received awards at the provincial and municipal levels as a demonstration project, has received a “National Construction Energy Saving Demonstration Program” award, and has been awarded a national patent for its Composite Ground Cooling and Heating System.
b. Fiduciary Compliance

A number of FM challenges were identified during implementation, including: initial delays in PMOs’ drafting of “Guidelines for School Reform Expenditures,” and later confusion about the eligibility of recurrent expenditures for school reforms; non-submission of withdrawal applications from project schools to PMOs, and/or PMOs needing to return poorly completed submissions from project schools unfamiliar with disbursement requirements; initial delays in contracting management consultants to provide TA in support of, for example, FM to the Liaoning Province PMO; high FM staff turnover, especially at the individual school level; and delays in submission of the project restructuring (that involved additional funding for civil works in remaining project schools in Liaoning). All audits were carried out and delivered on time and contained unqualified opinions.

The World Bank carried out a detailed FM review and support mission as part of the MTR that identified the need to improve FM staff capacity, noting minor project accounting issues, although internal controls, funds flow arrangements, external audits, and random transaction reviews were judged to be sound. The review recommended that the PMOs take responsibility to provide more FM training, support, and guidance. A subsequent review found that the project’s FM had improved, although minor shortcomings - loan disbursements continued to lag project implementation and contracting/payment - were evident.

c. Unintended impacts (Positive or Negative)

None reported.

d. Other

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12. Ratings

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<th>Ratings</th>
<th>ICR</th>
<th>IEG</th>
<th>Reason for Disagreements/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td>---</td>
</tr>
<tr>
<td>Risk to Development Outcome</td>
<td>Negligible</td>
<td>Negligible</td>
<td>---</td>
</tr>
<tr>
<td>Bank Performance</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td>---</td>
</tr>
<tr>
<td>Borrower Performance</td>
<td>Satisfactory</td>
<td>Moderately Satisfactory</td>
<td>Difficulties in procurement management, particularly in Liaoning Province, caused initial delays.</td>
</tr>
</tbody>
</table>
| Quality of ICR         | Substantial | ---          | Note: When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006. The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

IEG concurs with lessons learned as set out in the ICR (p. 25), many of which are tied to the specifics of the project type in question, such as:
• The need to pay attention to scheduling of activities for curricular reforms to be successful; and,
• The potential desirability of a competitive bidding process for participation (by schools) in innovative initiatives to ensure local commitment and buy-in, and the benefits of delegating to allow for autonomy in effectively tailoring approaches.

IEG also concurs with lessons with broader reach such as:

• The benefits, in terms of coordination and efficiency, of working through a single coordinating agency (rather than multiple agencies). In this instance, the fact that each province operated to a different structure meant effectively meant the operation of two independent sub-projects, and this had implications that impacted timing and sequencing as well as learning and evaluation. and,
• The assertion that demand-driven design of TVET programs can produce strong outcomes i.e, where courses and programs are designed in response to identified student and local industry need. In this instance, pre-project rates of graduation in both provinces were already high. The key outcome associated with the introduction of a competency based approach calibrated to local need, was a significant increase in the rate of employment of graduates in jobs associated with their field of study. This ensures greater rates of efficiency and sustainability in the longer term.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR is concise and well written. It provides useful and informative coverage of the history and context for the project as well as sound analysis of project implementation and achievements. However, while the ICR provides an easy-to-follow narrative of project implementation and activities undertaken in that regard, it does not provide particular insight into the extent to which lessons from the project acted, per the PDO, as a guide for future school reforms and policy development. The ICR does not provide detail on actual, total project cost, with particular reference to actual Borrower contribution.

a. Quality of ICR Rating
   Substantial