Model of teaching factory in vocational high school fashion program students

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ABSTRACT

The fashion design expertise program applies a teaching factory learning system to productive subjects. The implementation of the teaching factory learning model in this subject has not run optimally. This research aims to determine the effectiveness of the teaching factory model for fashion students as a learning model at SMK Negeri 1 Beringin. This research uses research and development (R&D) methods. This research was conducted at SMK Negeri 1 Beringin, with the research subjects being teachers and students of the Fashion Design Skills Program. The object of this research is to teach factory activities in productive subjects. Research into the development of the Teaching Factory learning model went through three stages, namely: 1) Needs analysis, 2) Product development, and 3) Expert validation. Material expert validation results obtained 98.6% and design expert validation obtained 88%. The results of the research show that the Teaching Factory model is effectively used in productive subjects for students of the Fashion Skills Program at SMK Negeri 1 Beringin.

Keywords: Learning model, Vocational High School (SMK), Teaching Factory

INTRODUCTION

Vocational High School has the task of preparing students to be able to work according to their competence. This is to the objectives of Vocational High Schools in (PP Nomor 19 Tahun 2005 Tentang Standar Nasional Pendidikan SNP, n.d.), Article 26 paragraph 3 namely the purpose of Vocational High Schools is to improve intelligence, knowledge, personality, noble character, and skills to live independently and take further education by their vocational.

Data from (Badan Pusat Statistik, 2021) shows that the poverty rate for vocational school education is 8.63%. This means that the low quality of graduates causes industrial world confidence to decline. According to (Heriyati & Abror, 2023), The low uptake of vocational school graduates is caused by various components, including the curriculum, teaching staff, and educational infrastructure. The industrial world complains that the qualifications of vocational...
school graduates are not yet in line with industry demands and that there is an overbalance and scarcity of vocational school graduates in line with the rise of Industry 4.0.

Much has been done by the school to improve the competence and skills of students so that the quality of graduates continues to increase so that the fiber power of graduates can be accepted in the job market. One of them is developing vocational education with a teaching factory learning program to align what is taught in Vocational High Schools with what is needed in the industrial world.

Teaching factory is a learning concept in production/service-based vocational schools that refers to standards and procedures that apply in industry and is carried out in an atmosphere similar to that which occurs in industry which utilizes production units as a place to carry out a business or production process (Dewi et al., 2023; Diwangkoro & Soenarto, 2020; Sudiyono et al., 2019). The teaching factory has emerged as a promising paradigm for integrating the learning environment and the industrial world (G., Chryssolouris et al., 2014; Mavrikios et al., 2018). The aim is for two-way knowledge communication between historians and industry (G. Chryssolouris et al., 2016). A teaching factory creates a learning environment similar to a real factory, where students can gain practical experience and develop the skills needed for work (Ogur, 2023). Students not only practice soft skills in learning, learn to be able to work in teams, and practice interpersonal communication skills, but gain direct experience and work practice to enter the world of work later (Siswandi & Sukoco, 2016)

The research results of (G., Chryssolouris et al., 2014) show that the Teaching Factory has promising potential and abundant benefits, both for students and industry, which enable students to deepen certain knowledge topics and apply them in industrial practice. This is to the characteristics of vocational education as mentioned (Perdana, 2018), namely: (1) preparing students to enter the workforce; (2) based on the needs of the world of work "demand-market-driven"; (3) mastery of competencies needed by the world of work; (4) world of work performance; (5) close relationship with the world of work; (6) responsive and anticipatory towards technological advances; (7) learning by doing and hands-on experience; (8) requires greater investment and operational costs than general education.

The concept of a teaching factory is to combine learning and a work environment that is realistic and generates relevant learning experiences. There are three things found in the teaching factory concept (Lamancusa et al., 2008): (1) Ordinary learning is not enough; (2) Student gains are obtained from hands-on practical learning experiences; (3) Team-based learning experiences involving students, teachers, and industrial companies as partners reference (Yunanto, 2017) explains that the Teaching Factory is an effort to bring the work industry into the school environment. The aim is to increase the competency of graduates, instill an entrepreneurial spirit, produce products in the form of goods or services that have selling value,
increase the school's source of income, and increase collaboration with industry as partners. (Lestari, 2014) states that the existence of a professional teaching factory has opportunities in terms of development, namely participating in improving the creative economy, besides that the presence of reliable and creative human resources will create existing opportunities to become something more innovative. This is what can encourage students to be able to take advantage of the knowledge and skills that exist in the teaching factory to develop themselves so that later students can work, continue their studies, or become entrepreneurs.

Furthermore, (Kuswantoro, 2014) explains that a teaching factory is a learning platform capable of arousing entrepreneurial spirit. Vocational High Schools can produce graduates who have entrepreneurial behavior through teaching factory learning that is implemented in Vocational High Schools. Likewise, in teaching factories, it is necessary to plan activities to be carried out in production and service units to achieve effective and efficient goals, namely the planning concept which includes vision, mission, goals, and short-term, medium-term, and long-term programs.

The implementation of the teaching factory is a development of the production unit, namely the application of the partner industry system to the production/practice units in vocational schools (Erma et al., 2022). The business unit produces goods and services that meet quality standards commensurate with industrial standards, so they can be accepted by the public or consumers, and have a high selling value. Thus the Vocational High School develops its potential widely to explore sources of financing as well as a source of learning for students.

The existence of a teaching factory in schools is very helpful in carrying out direct practice in schools. Therefore, society and industry are no longer worried about the competencies possessed by students, because Vocational High School graduates are trained to be ready to work and able to produce their work. In addition, teaching factory learning is very useful in developing student competencies as well as creating an entrepreneurial spirit and can increase income for expertise/department programs and schools. So that we can revitalize vocational schools to improve the quality and human resources in Indonesia. The characteristics of schools that run teaching factories are that 60-70% of school facilities and infrastructure are used for production activities, business activities carried out are only business and production operations, and the income they have is different from the characteristics of schools that carry out production-based education where 90 % of facilities and infrastructure used for production activities, business processes carried out complete with business support and the income generated can cover operational financing as well as investment (Kuswantoro, 2014).

The current teaching factory program is a breakthrough for the world of education in Indonesia which can produce graduates of Vocational High Schools who are competent and ready to work according to the demands of the world of work in line with the fields they are occupied. This teaching factory learning activity can also produce goods or services that have a selling value that
can develop the potential of Vocational High Schools to process sources of financing as well as a source of learning and play a very important role in developing these activities.

The Directorate of Vocational School Development explained that the Teaching Factory is a development of the existing production unit at the Vocational School. Teaching factories must be integrated with production units to carry out student practice (Purnomo et al., 2020; Risnawan, 2019). The implementation of teaching factory management can equip students with skills appropriate to the industry. However, the implementation of the teaching factory must also be carried out optimally through more collaboration so that it can produce or ensure that it will have an impact on improving the vocational quality of schools (Budiyono, 2020).

(Fajaryati, 2013) explanation that the implementation of teaching factory shows that teaching factory learning can improve the production process which includes: (1) planning activities; (2) production activities; (3) after-sales activities/improvement of consumer needs; (4) partnership, including school cooperation. The same thing was written by (Mustari et al., 2017) that the teaching factory learning program is a combination of existing learning approaches, namely CBT (Competency Based Training) and PBT (Production Based Training). CBT (Competency Based Training) is training based on things that are expected by students in the workplace, besides that CBT (Competency Based Training) emphasizes what a person can do as a result of training (output) not the quantity of the amount of training. PBT (Production Training) is a process of learning skills or skills that are designed and implemented based on real work procedures and standards (real jobs) to produce goods or by market or consumer demands. Teaching factory is a learning concept in classrooms and practice labs by implementing training in a real setting, to bridge the competency gap between industry needs and knowledge from schools.

In the Fashion Design Skills program, students are taught skills regarding clothing, starting from selecting textile raw materials, designing clothes, making fashion patterns, sewing clothes, decorating clothes, and up to packaging and marketing. The teaching factory learning system is applied to productive subjects, namely industrial fashion.

The teaching factory at SMK Negeri 1 Beringin was implemented in schools in 2018, but it has not run optimally, it is still constrained by the provision of practice space, practical equipment, practice materials, distribution of practicum schedules that are not appropriate, so the teaching factory does not run optimally.

Based on the results of observations, it can be seen that teaching factory activities have not been fulfilled due to a shortage of human resources, while the problem with the teaching factory implementation process is that the role of students is not optimal. The information obtained is that students are only involved in certain areas of work, possibly jobs that are considered easy for students to do, without any guidance from the teacher. The lack of the role of students in the implementation of teaching factory learning is a problem that is the focus of schools, especially
the dressmaking expertise program. Even though they have carried out fieldwork practices, the role of students has not been prominent in practical activities and the quality of the products produced has not satisfied the teacher's assessment criteria in industrial fashion subjects. The products produced in industrial fashion subjects are work clothes, aprons, men's shirts, adult women's blouses, and skirts, where in the process of work done by students there are still many improvements by the teacher.

The role of students who are less active in learning in the laboratory shows that the schedule arrangement between theoretical learning and practical learning is not optimal, ideally, the learning schedule in the Fashion Design laboratory adjusts to the learning in class. Likewise, with the material being taught, the material that has been taught in theory classes should be applied to practical learning in the Fashion Design Laboratory. Teaching factory is a production/service-based learning in Vocational High Schools that refers to standards and procedures and is carried out in an atmosphere similar to what happens in industry. This learning activity is very effective and efficient. Effective means that teaching factory learning can lead Vocational High Schools to reach the competent stage, namely a stage where students deserve to be given authority because they are considered capable. Efficient means that learning with this model is highly operational. For this reason, the teacher prepares students in the 6 steps of the teaching factory learning model, namely: 1) receiving orders, 2) analyzing orders, 3) stating readiness to work on orders, 4) working on orders, 5) evaluating products, and 6) submitting orders according to the student's role as a skilled executor. But in reality, students have not been able to apply the 6 basic steps before direct practice in the industrial world. Due to the lack of student's ability to apply these 6 steps, the teacher plays a very important role in teaching factory activities in the Fashion Design Laboratory. The problems that arise in the implementation of the teaching factory at the Vocational High School 1 Beringin Vocational School 1 Dressmaking Skills Study Program have inspired researchers to find out systematically how the teaching factory is implemented in the Vocational High School.

METHOD

The method used in this research is Research and Development (R&D) which adopts the ADIIE development model approach (Januszewski & Molenda, 2008). In this research, the development stages are summarized in three stages, namely the planning stage, development stage, and assessment stage. The development model is a series of procedures or stages to produce a learning model design. In this study, the learning design used was the teaching factory learning model in productive subjects of the Dressmaking Skills Program at SMK Negeri 1 Beringin. The stages of development are the planning stage, the development stage, and the assessment stage.
This research contains a systematic description or description of the implementation of the teaching factory, and the steps for implementing the teaching factory in the SMK Negeri 1 Beringin Study Program. The research subject is Class XI Fashion Design and the teacher will carry out teaching factory activities, with the research object being teaching factory activities in productive subjects carried out in the Fashion Design Laboratory. In this research, the learning design used is the teaching factory learning model in the productive subject of the Fashion Skills Program at SMK Negeri 1 Beringin. The development stages are the planning stage, development stage, and assessment stage.

The planning stages include (1) student needs, namely analyzing needs is done by giving a needs questionnaire to students who do teaching factories. From the analysis of student needs, it will be known the basic problems that exist in productive subjects at the Beringin 1 State Vocational High School, the Fashion Design Expertise program, and provide solutions to overcome these problems. (2) Characteristic analysis, namely from the results of the analysis of student characteristics, will determine the characteristics and initial conditions of the students in the Dressmaking Skills Program at Beringin 1 Vocational High School. (3) Designing learning activities, namely by designing learning activities according to the needs and characteristics of students so that what will be carried out during learning is neatly arranged. Who will implement it, where, and when will be implemented?

Furthermore, the Development Stage namely; 1) Designing a learning implementation plan (RPP), which consists of educational units, school names, subjects, classes, semesters, time allocations, meetings, competency standards, basic competencies, indicators, learning objectives, learning materials, and learning activities. 2) Formulate learning objectives; namely describing the competencies students will acquire after taking the learning process. 3) Determine learning materials, methods, and media; namely the subject matter of industrial clothing in the Vocational High School 1 Beringin's Fashion Design expertise program. 4) Develop materials; namely developed by learning objectives by using the teaching factory learning model. Submission of material will be carried out using the teaching factory model design. The development of previous materials will be validated by material experts.

Next is the Assessment Stage; a) Testing and data collection. b) Analysis of achievement of learning objectives, c) Review and revision.

RESULTS AND DISCUSSION

The teaching factory is a learning model developed in a vocational education institution to improve students' competencies through a full practical learning process carried out in school workshops, where the workshops are arranged as if they were working in a real industry.
The process of carrying out research and development of the teaching factory learning model is carried out in stages. The initial stage in this research was to ensure that the teaching factory learning model had been used in the learning process. The next stage is data collection. Data collection was carried out by distributing questionnaires to students and teachers.

Product Needs Analysis

The process of research and development of the teaching factory learning model in the early stages carried out was to analyze the needs of students and teachers. An analysis of student needs was carried out for 15 students of State Vocational High School 1 Beringin Fashion Design by distributing questionnaires. In addition, the questionnaire was also given to 2 subject teachers who taught practical subjects, which aimed to find out the initial conditions of teaching factory model learning. The results of the student needs questionnaire and the results of the teacher need questionnaire are used as the basis for developing the teaching factory learning model.

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Amount score</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Felt practical lessons difficult to do</td>
<td>100</td>
<td>75,76</td>
</tr>
<tr>
<td>2</td>
<td>Feel ready when carrying out teaching factory learning</td>
<td>96</td>
<td>72,73</td>
</tr>
<tr>
<td>3</td>
<td>Your teacher always pays attention to practical learning activities</td>
<td>116</td>
<td>87,88</td>
</tr>
<tr>
<td>4</td>
<td>Understand the material delivered by the teacher in practical lessons</td>
<td>107</td>
<td>81,06</td>
</tr>
<tr>
<td>5</td>
<td>Your teacher has used the teaching factory (production unit) learning model in the process of making industrial clothes</td>
<td>111</td>
<td>84,09</td>
</tr>
<tr>
<td>6</td>
<td>The learning process for industrial fashion is always effective</td>
<td>100</td>
<td>75,76</td>
</tr>
<tr>
<td>7</td>
<td>All facilities in the fashion design laboratory can be used</td>
<td>110</td>
<td>83,33</td>
</tr>
<tr>
<td>8</td>
<td>The teacher always pays attention when the learning process takes place</td>
<td>105</td>
<td>79,55</td>
</tr>
<tr>
<td>9</td>
<td>The teacher checks the product that has been done</td>
<td>117</td>
<td>88,64</td>
</tr>
<tr>
<td>10</td>
<td>Cleanliness and comfort of the practice room are maintained together</td>
<td>117</td>
<td>88,64</td>
</tr>
<tr>
<td></td>
<td>Amount</td>
<td>1079</td>
<td>817,44</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td></td>
<td>81,7</td>
</tr>
</tbody>
</table>

Based on the results of the needs analysis from the questionnaire that was given, 81.7% of students said they needed the development of a learning model. In the analysis of the needs of teachers, 87.5% said the development of a teaching factory learning model could make learning run systematically.
Initial product development

After conducting a needs analysis, the next step is to develop a teaching factory learning model. The product produced in this development is the teaching factory learning model procedure. The stages of developing the teaching factory learning model are developed in outline, namely:

1) Review the curriculum

Reviewing the curriculum is carried out so that the development of the teaching factory learning model is produced by the syllabus and learning objectives. After reviewing the curriculum, the next step is to look at the syllabus for industrial fashion subjects. In the syllabus, industrial fashion subjects have basic competencies, namely; basic competence in the process of making home clothes

2) Identify the material

From the results of discussions with the subject teachers and the results of the revision of the proposal seminar, the researcher chose the process of making home clothes in the basic competency of making home clothes.

Initial Product Description

The initial product development of the teaching factory learning model contains the teaching factory learning process that has been developed. By looking at lesson plans and scenarios that are applied to practical learning. After the initial product was completed, it was then analyzed by design experts and material experts and revised with suggestions and input provided by experts, and then small group trials were carried out to determine student interest in developing the applied model.

After being tested, it was then revised according to the criticisms and suggestions given by students, then carried out trials in the medium group, and then revised the deficiencies again to finally conduct large group trials which aimed to see the effectiveness of developing the teaching
factory learning model. The following are the results of the development of the teaching factory learning model.

1) Preparatory stage

1. Students change clothes (school uniform) with practical clothes
2. Students line up in front of the laboratory and are led by students in turn
3. Students and teachers pray together to start learning
4. The teacher makes attendance
5. The teacher distributes tasks to students
6. Students enter the laboratory room
7. Time for practical learning must be adjusted to time working in the industry

Figure 2. Preparatory stages that have been developed into several processes

2) Practice stage

1. Direction for the job that students will do
2. Guidance and explanation of work safety (K3) that students must comply with
3. Implementation of practical learning strategies that are implemented using the teaching factory concept
4. Students are allowed to use existing laboratory facilities together
5. Students choose and take the tools to be used
6. Check and record the tools used in the practicum
7. Doing work according to the job that has been determined by the teacher

Figure 3. The practice stages that have been developed into several processes

3) Product checking stage

1. Product checking by the teacher
2. Students analyze and record products that will be used by consumers
3. Looking for solutions to problems found when getting product damage

Figure 4. Product checking stages that have been developed into several processes
4) Product evaluation stage

**Figure 5.** product evaluation stages that have been developed into several processes

In the development of the teaching factory learning model, 4 stages were carried out and revisions were carried out, 4 stages of trials were carried out, namely: (1) Validation by learning material experts and learning design experts (2) Small group testing (3) Medium group testing (4) Large group trials.

**Product Eligibility**

The validation of the development of learning models by design experts and material experts aims to find out expert opinion, whether the development of the applied model has been effective or not in the teaching factory learning process. for the trial phase seen from the Quality of Teaching Factory Learning Design, quality of information design, quality of presentation. The following is validation data from experts:

1) Material Expert Validation Result Data

Material validation of the Teaching Factory Learning Model was carried out by three material experts on industrial clothing, to obtain information on the feasibility of the Teaching Factory learning model for students. Furthermore, the results of the validation in the form of an assessment score of the material components of industrial clothing in the Teaching Factory Learning Model are seen in the following graph. Based on the observation of the results of the material expert validation in the table of the tendency level of material assessment regarding the feasibility aspect of the content, the quality of the material is very good with a percentage of 88.4%, good qualification (9.6%).

**The feasibility aspect of the quality of the content of the material**

- Very Good: 88.40%
- Good: 9.60%
- Rather Good: 2%
- Not Good: 0%
- Very Not Good: 0%
Based on the observation of the results of the material expert validation in the table the level of tendency to assess the aspect of presentation of the material is "very good" with a percentage of 90%, then in the Good category (7%), and quite good (2%).

Based on the results of the validation of the level of a tendency to assess material about language from material experts, a percentage of 88.9% was obtained in the very good category 8.1% in the good category, and 3% in the sufficient category.
Assessment of all aspects carried out by material experts includes aspects of the feasibility of the content of the material, aspects of presentation of the material, and linguistic aspects of the Material Teaching Factory Learning Model to students are summarized in Figure 9.

![Percentage of due diligence by material experts](image_url)

Figure 9. Percentage of due diligence by material experts

The results of the feasibility test by learning material experts on the feasibility aspect of the content of the material with a percentage of 88.4%, the presentation of the material with a percentage of 90%, and the language of the material is 88.9%. The total average number of aspects of 89.1% is in the very good category and is feasible to use. The results of the media feasibility test from the observations of 3 learning material experts are presented in the following diagram.

<table>
<thead>
<tr>
<th>Table 2. First Revision from Material Expert I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comments/Suggestions</strong></td>
</tr>
<tr>
<td>Add a description of the steps for making work clothes, from designing, cutting, sewing to tidying up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3. The first revision of the material Expert II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comments/Suggestions</strong></td>
</tr>
<tr>
<td>Correct grammar in homework materials</td>
</tr>
</tbody>
</table>
Table 4. The first revision of the material expert III

<table>
<thead>
<tr>
<th>Comments/Suggestions</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve home clothing materials and give some examples in the form of pictures of</td>
<td>Improve existing material in home clothing materials and add sample images</td>
</tr>
<tr>
<td>home clothes and give examples of colors, patterns, and materials that are suitable for use in home clothes</td>
<td></td>
</tr>
</tbody>
</table>

2) Data from Learning Design Expert Validation Results

The validation of the teaching factory learning model was carried out by three learning design experts. The assessment is carried out to find out and obtain information that will be used to increase the effectiveness of the teaching factory learning model for students. Based on the observations of learning design experts, it can be seen that the level of feasibility of the contents of the learning design is "very good" with a percentage of 37.5% and "good" 62.5%.

![Figure 10. Level of Tendency in Assessment of Feasibility Aspects of Content Design Teaching Factory Learning Model](image1)

Based on the observations of learning design experts at the level of tendency, the presentation aspect of the learning model is very good with a percentage (66.7%) and good (33.3%).
Table 5. Percentage of Feasibility Test Results of the Teaching Factory Learning Model by Design Experts

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Content eligibility</td>
<td>84.35</td>
</tr>
<tr>
<td>2.</td>
<td>Presentation</td>
<td>91.65</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>88</td>
</tr>
</tbody>
</table>

The feasibility test of the Teaching Factory Learning Model by design experts on the feasibility aspect of the content with a percentage of 84.35%, and the presentation aspect with a percentage of 91.65%. The average results for all aspects obtained 88% very good criteria. This means that the teaching factory model is suitable for use in learning. The results of the feasibility test of the Teaching Factory Learning Model from 3 media experts are presented in diagram 5 as follows:

Figure 12. Percentage of due diligence by learning design experts
Table 6. First Revision from Learning Design Experts

<table>
<thead>
<tr>
<th>Comments/Suggestions</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarify the writing of the lesson plan on the cover</td>
<td>Clarify the writing of lesson plans</td>
</tr>
</tbody>
</table>

Table 7. The first revision of the Learning Design experts

<table>
<thead>
<tr>
<th>Comments/Suggestions</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refine and clarify the arrangement and sequence of the 6-step teaching factory learning activities used in learning</td>
<td>Improving the arrangement of learning activities</td>
</tr>
<tr>
<td>Add teaching materials for industrial fashion consisting of whatever is described</td>
<td>Adding industrial fashion learning materials consisting of work clothes, home clothes, men's shirts</td>
</tr>
</tbody>
</table>

Table 8. The first revision of Design III experts

<table>
<thead>
<tr>
<th>Comments/Suggestions</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete with the material being studied</td>
<td>Added industrial busan material</td>
</tr>
<tr>
<td>Complete learning resources</td>
<td>Complete information on learning resources</td>
</tr>
<tr>
<td>Complete with time for learning activities</td>
<td>Complete a form of learning assessment test</td>
</tr>
<tr>
<td>The assessment is equipped with the form of the test used</td>
<td></td>
</tr>
</tbody>
</table>

The teaching factory learning model is carried out based on the stages contained in the research procedure. This development research starts from the needs analysis given to students and teachers. This analysis was carried out by providing a needs questionnaire, with the results of collecting data on student needs (81.7%) and teacher needs 87.5%, indicating that the teaching factory learning model is needed to support student learning processes in practical subjects and also train students to be ready to be placed in the field of fashion industry. Needs analysis in the development of the Teaching Factory Learning Model has several stages, namely: reviewing the curriculum and identifying the material needed for the development of the Teaching Factory Learning Model.

The next stage of developing the Teaching Factory Learning Model is a feasibility test or validation by material experts in the field of clothing and learning design experts. Validation by learning design experts aims to provide input and evaluate the design of the teaching factory learning model that has been developed. Validation by learning design experts stated that 88% of learning designs were used well because they met the eligibility standards of 84.35% good content and 91.65% very good presentations. Validation by material experts aims to provide input and evaluate the Teaching Factory Learning Model Material. Validation by material experts stated that overall 98.6% of the material was very good with the appropriateness of the content of the material 98.6% very good", presentation aspects 100% very good, and material language 97.2% "very good". With Teaching Factory students can learn and master skills or skills that are carried out based on actual industrial work procedures and standards. not only that, the products made by students as a learning process can also be marketed to the public so that the results can be used to meet the needs of school operational costs.
This was reinforced by research by Nuryake Fajaryati (2012) who evaluated the Implementation of a Teaching Factory for Vocational High Schools, that the implementation of a teaching factory in terms of learning activities was stated to be very good (17.28%) by 14 teachers, good (39.51%) by 32 teachers, not good (25.93%) by 21 teachers, and very bad (17.28%). While the results of the teaching factory implementation in terms of the production process were stated to be very good (4.81%) by 12 teachers, good (27.16%) by 22 teachers, not good (44.44%) by 36 teachers, and very bad (13.58%) by 11 teachers. Furthermore, the results of Dadang M's research (2011) which discusses Learning Models to Improve Student Competence in Productive Subjects, that the 6-step teaching factory learning model using the R&D method shows that this learning model is effective in increasing students' productive competence. Furthermore, (Nurtanto et al., 2017) stated that Teaching Factory management includes planning, organizing, implementing, and evaluating. The Teaching Factory that was developed is integrated with the production unit to carry out student practice.

After going through the stages of analyzing the needs of students and teachers, validating material experts, and validating the design of the learning model, it is said to be effective from the assessment of material experts and design experts. Then this learning model can be applied in practical learning in schools to train students. publication of this learning model can be done by providing Lesson Plan files to teachers in vocational high schools via Laptops/cell phones and Flash disks. Therefore, the role of the teaching factory learning model has great potential to train students to work with work systems applied in the industrial world. For this reason, the learning model provides learning resources that can assist the teacher's role in enriching students' insights. The Teaching Factory Learning Model is a learning model for Vocational Schools, both Vocational High Schools and Vocational Higher Education based on production/services that refer to standards and procedures that apply in the industry and are carried out in an atmosphere similar to what happens in the industry. Teaching Factory is a learning concept in real situations to bridge the competency gap between the knowledge provided by schools and the needs of the industrial world.

CONCLUSION

Based on the results and discussion of research on the development of the Teaching Factory learning model for students of the Fashion Design skills program, it can be concluded as follows: Material expert validation obtained results of 98.6% in the very good category and the results of the learning design expert's assessment were 88% in the very good category. From the results of this assessment it can be concluded that the Teaching Factory learning model product developed has been effectively used as a learning model in productive subjects for students of the Fashion Skills Program at SMK Negeri 1 Beringin. The development of the teaching factory
model has implications for 1) increasing the efficiency and effectiveness of delivering soft skills and hard skills to students; 2) Increasing cooperation with the business/industry world through aligning curricula, providing instructors from industry, transferring knowledge/technology, introducing industrial standards and culture; 3) Increasing the competence of educators and education personnel through interaction with the business world/world; 4) There has been a change in learning paradigm and work culture in schools and vocational training; 5) Enrich students' portfolios and experiences through products that have been created during the learning activities that have been carried out.

REFERENCES


